

Railway Age

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Wider Diffusion of Stock— What Does It Mean?

OF late many railroads and public utility companies have made a laudable effort to secure a wider distribution of their securities and they have for the most part been very successful in doing so. It is important, however, to recognize that there are critics of this practice who, by their statements against it, tend to detract somewhat from the benefits rightly expected from it. One of the most frequent of these criticisms is that the wider diffusion of ownership is meaningless—that the small stockholder has no voice in the conduct of the enterprise and that the "same old gang" remains in power. It is, of course, impossible to have active representation on boards of directors for every minor holding of stock, nor would it be possible for every small stockholder to take a long journey each year to attend a stockholders' meeting. However, it ought to be possible by active effort to arouse a greater feeling of participation on the part of stockholders than is usual at the present time. Greater effort to acquaint them with the company's affairs and to explain the company's general policies at periods more frequent than the annual reports might well bring the stockholders to a greater feeling of active participation than they have at the present time. If stockholders could be brought in the same numbers and with the same enthusiasm to company meetings here as they are in England, the principal criticism against the effectiveness of wider distribution of ownership would disappear. If wider diffusion of securities is worth striving for, certainly then the greater interest on the part of the stockholders necessary to secure the full fruits of the diffusion is also worth some effort.

Car Loadings in 1925

WHILE railway freight traffic for several weeks now has fallen below that for the corresponding weeks of the record year 1923, as measured by the number of cars loaded with revenue freight, the total for the first half of 1925 now available is still ahead of that for the corresponding period of any previous year. Total car loading for the 26 weeks ended with June 27 amounted to 24,297,628 cars, an increase of 4.8 per cent as compared with last year and an increase of 1.2 per cent as compared with 1923, when 24,005,502 cars were loaded in the first half of the year. In 1923 the year started out with comparatively light traffic but by June car loading was running at the rate of over a million cars a week. This year began with heavy car loading but with very little increase until the latter part of April and the million mark has not yet been attained in any week, although the estimates of the Car Service Division predict record loading for the year as a whole and a total for the year of over 50 million cars, as compared with 49,812,113 cars loaded in 1923, which would be an increase of 1.4 per cent. Car

loading in the Eastern and Allegheny districts this year has been less than that for the corresponding weeks of 1923, but in all other districts the loading has exceeded that of any previous year. Considering the figures by classes of commodities it appears that the loading of grain and grain products and livestock has been less than that of last year, although grain and products have exceeded the figures of 1923. All other classes of commodities show increases as compared with last year and forest products, merchandise and miscellaneous freight show increases as compared with the corresponding period of any previous year. On the other hand the loading of coal, livestock, coke and ore, while exceeding that of last year, has been below the corresponding figures for 1923. The showing to be made by the ton-mile figures, which will reflect the factor of tonnage per car and the distance the freight is hauled, will not be known yet for some time, as the statistics are not yet available.

The Effect of Train Control on Train Operation

THE observation of the effect of train control on train operation is an important duty of officers in charge of engine divisions which are now equipped or being equipped with this apparatus. Although the Interstate Commerce Commission, in ordering the carriers to install train control, was concerned primarily in the safety of train operation to result therefrom, it is also charged with the duty to see that the railroads earn a fair return on their investment, including that for train control. Likewise, operating officers are anxious to know whether train control, when in normal operation, is going to slow up train operation or to help trains get over the road more rapidly. On lines where the traffic does not approach the possible track capacity the train control will be of little consequence in train operation, except in case of delay or accident, but on lines handling heavier traffic the train control should be of assistance to engineers when approaching or entering occupied blocks, and when closing up on trains that are entering passing tracks, or standing at coaling or water stations. If the train control is so designed and operated as to permit an engineman to enter occupied blocks without necessarily stopping at the automatic signal, providing he acknowledges the indication, it should assist train operation by allowing such train stops to be eliminated. The necessity for speed control depends on the accuracy with which the engineers observe the speed restriction in the occupied block. A few roads are inclined to use the continuous cab signal and to thereby replace the wayside fixed signals. Such a system, if found to be satisfactory, may be adopted extensively on account of the possibility of spacing trains more uniformly regardless of curves or other factors governing the location of fixed signals. However, aside from the possibility of a closer spacing of trains the principal opportunity of improving train operation by train control

is to eliminate train stops and the railroads should, therefore, set in motion some method to determine the number of train stops which are eliminated, thereby accumulating data that will be of value when considering further installations.

I. C. C. Problems and Trials

"PROBLEMS and Trials of the Interstate Commerce Commission" is the title that F. J. Lisman has given to his article discussing the present complicated situation in which the country's leading regulatory body now finds itself. It is not necessary to inform *Railway Age* readers concerning Mr. Lisman's authority to speak on matters of this kind. He has had many articles in the *Railway Age* in times past. These have always been authoritative, always interesting, and they have invariably flashed new light on problems of leading importance. In his present article Mr. Lisman outlines the complexities of the commission's responsibilities at this time. He points out that in its findings the commission must reconcile the opinions of eleven men and the varying interests, selfish or otherwise, of hundreds or thousands of communities and industries. The leading problems detailed by Mr. Lisman as being before the commission for solution are the Nickel Plate merger; the general problem of consolidation; the St. Paul situation; the Potter plan or other proposals for rate readjustment in the Northwest; the uncertainties resulting from the Hoch-Smith resolution, and valuation. Nevertheless, Mr. Lisman has erred on the side of omission rather than of exaggeration. He has, as it happens, referred to the problems of more popular interest but not to some of more technical but possibly less popular interest. Railway accounting officers, in particular, will notice no reference to the intricate problem of the revision of the accounting classifications, a matter that the commission has been discussing thus far fruitlessly for at least three years. Or what about the new problems of accounting for recapture, automatic train control, bidding for railway securities or various other matters that will occur to the individual reader, depending upon where his interest may lie? There is a moral to Mr. Lisman's article. One may criticize particular decisions or particular policies of the Interstate Commerce Commission. The critic will be in poor taste, however, who criticizes the commission as an organization or who stoops to personalities. Mr. Lisman has done more than merely to point out the commission's many present problems. He has in effect made a plea for unprejudiced judgment of its work.

Business Methods in Equipment Maintenance

IN a communication to the Interstate Commerce Commission abstracted elsewhere in this issue, seventeen companies whose business is repairing freight cars for steam railroads sharply assail the decision of the Interstate Commerce Commission with respect to the contracting of equipment repairs by the railroads, which it rendered on the basis of an investigation instituted early in 1921. What at first glance may appear to be a fight of a special interest to secure through the Interstate Commerce Commission special privileges in its relations with the railroads, is in reality a plea for a return to the railroads of the privilege of using business judgment in determining their policy with respect to the use of outside facilities

along with their own for equipment maintenance. The question raised is an important one which it seems evident, in the light of the Commission's attitude, the railroads individually do not now feel free to settle for themselves on the basis of the economic factors involved in each case; but to settle it on any other than economic factors will ultimately prove to be poor policy either from the standpoint of the railroads themselves or the public.

The representatives of the car repair industry set forth, among other things, that the main business of railroads is transportation and that manufacturing on the railroad is under non-competitive conditions; that the important item of service value obtained from the equipment as the result of earlier deliveries was omitted from its comparison by the commission, and that the railroad accounts cannot and do not show proper manufacturing costs. The communication also pointed out that the commission, after declaring in its decision that railroad overhead costs could be entirely disregarded in such an investigation as it conducted because the railroad facilities were available for use, then proceeds to argue that the alleged extra cost of doing work outside should have been applied to the construction of additional needed facilities. It also stated that present facilities (presumably railroad and privately-owned combined) are quite ample to care for all necessary manufacturing and rebuilding and that duplication of these facilities is an economic waste; that to confine shop work to railroad shops does not tend to stabilize employment and that the absorption of private and miscellaneous activities by a railroad corporation is not consistent with American principles.

During the latter half of 1921, the subject of overhead as it affects the comparison between the costs of work done in a contract shop and in a railroad shop was set forth in a series of articles in the *Railway Age* by J. W. Roberts, president of the Roberts-Pettijohn Wood Corporation. These articles show clearly how the building up of accurate costs requires the allocation of some portion of many other accounts than those included in the maintenance of equipment group and clearly suggest the danger of dismissing these items from consideration with the argument that these expenses would be incurred whether a particular operation in question were to be performed or not. A blind following of this argument has led to the diversion of building space and facilities for the conduct of manufacturing operations not directly involved in equipment maintenance which were badly needed to handle these direct operations adequately in the volume required. This, of course, does not apply directly to the case under consideration as it involves the performance of regular equipment repair operations rather than incidental manufacturing operations. Both present the same aspect in the end, however, as the commission's own argument on both sides of the question as set forth by the car rebuilding companies, suggests, and that is the ultimate excessive investment in facilities not primarily transportation facilities.

In effect, what the car repair industry asks for is a return to the railroads of the opportunity to decide for themselves whether they should build car shop facilities enough to take care of the peak loads which are the result of the apparent necessity to regulate the volume of maintenance work in proportion to the volume of traffic, whether they shall limit the capacity of their own facilities to their average requirements, or whether they shall keep them down to the minimum requirements. In the two latter cases, dependence will, of course, be placed on private car repair companies as a balancing medium. To assist in making economically sound decisions of this kind, the specific request is made that the commission promptly provide for the carriers a system of accounting which will

currently and scientifically develop true costs for each primary or incidental activity in which they may be engaged. This is something which is apparently as much needed by the commission in the interest of clear thinking as by the railroads themselves.

There are other factors which must be taken into account as well as that of relative cost. Some of these are the stabilization of employment, mentioned by the car repair companies, the conservation of capital as far as possible for use in expanding primary transportation facilities and the maintenance of competition with respect to labor conditions as well as with respect to price. Without the accurate information as to relative cost, to be provided by a suitable system of accounting, however, because of the apparent discrepancy in costs when those in the railroad shop include direct labor and material and shop expense only, these factors have little chance of receiving the attention they deserve when such decisions are to be made.

Building on a Sound Foundation

SUGGESTIONS for improvement from the rank-and-file have not always been welcome in all departments on all railroads. One of the significant developments of the past few years is the tendency on the part of many railroad officers to encourage constructive suggestions on the part of their subordinates and in seeing that they are given proper credit for those which are found to be practical and can be used to advantage. The successful carrying out of this idea has been a large factor in strengthening co-operation from the workers on several roads.

Another side of this question was clearly reflected in a number of the contributions to the competition on co-operation which was held by the *Railway Age* last year. The managements in some cases were drastically criticized because they failed to pay any attention to constructive suggestions which were offered from the ranks; or individual foremen and officers were criticized because they took all the credit for ideas or suggestions which came from the men and which proved to be a success.

The July number of the Boston & Maine Employees Magazine contains an editorial entitled, "Building Up," which starts off with this significant sentence: "The man who helps his associates instead of pulling them down has in him the makings of success." The entire editorial is worthy of reproduction. Space permits quoting only two typical paragraphs, as follows:

"And the man who makes many friends through his squareness is the type who can be used for larger work; not the one who is unable to get a working team together because he is concerned for his own prospects only. The minor supervisor, for instance, sometimes forgets that a gang of bright men developed under his guidance, full of suggestions, keen to turn out work and get ahead, is the strongest possible sign of his own powers of leadership and capacity. Unless he is big enough to see that, he is likely to make the fatal mistake of discouraging exceptionally good work or ingenuity on the part of some man in a lower position, or taking the credit for his ideas, in the fear that this man may become a rival for his superior's own job. * * *

"No man ever gained a success worth having by undermining or pulling down somebody else. There is a yellow streak in him somewhere. The flaw in his make-up will sooner or later show up and limit or wreck his ability to hold successfully the higher position he is after. For a time this method of getting ahead may work very well, so far as anyone can see, but with each new step the

reliance upon bluff and unfairness becomes a poorer risk and more certain of detection. The higher he rises the more severe the tests he must meet to make good, and the closer he comes under the eye of those who can read character back of pretense, and upon whom his future may depend."

To those who have made any scientific study of management and successful leadership, these paragraphs contain nothing new. Unfortunately, however, too few of those who are in supervisory positions on the railroads have had any opportunity of seriously or scientifically studying this question of foremanship and leadership, and this in spite of the fact that a number of agencies have been promoting it. The following remark made by a foreman is typical of many similar expressions which have come to our attention: "A year or so ago, one of the universities sent out a man to deliver a series of lectures to foremen in the city I happened to be in. These opened up an entirely new line of procedure in the handling of men and I am sure that all foremen who attended derived great benefit from them." This remark was not made by a novice, but by a railway shop foreman of some considerable experience who was regarded as a success. Steps must be taken to give the foremen and supervisors the benefit of these things. In some cases the foremen themselves have recognized the situation and have taken steps to help themselves. Surely the managements can afford not only to assist the foremen in their studies to fit themselves for more successful leadership, but can well afford to go to considerable trouble and expense in coaching and training these men according to the best thought and experience on foremanship and personnel administration.

Foremen and Co-operation

AS more and more emphasis has been placed upon the importance of the human element in railroad organizations, the necessity of real leadership ability on the part of the foremen and supervisors has become more evident. These men must not only critically study the abilities and personalities of those who work under their direction, and know how to get the best results in dealing with them, but they must bring the management and the men into closer relations and better understanding with each other.

Obviously, if the foreman or supervisor is to perform this difficult and complicated task satisfactorily, he must have a high regard and respect for the management. Some heads of departments have faced rather embarrassing situations when they have started to approach the problem of improving relations with the employees and bringing about a larger degree of co-operation. Necessarily they must work through the foremen and subordinate supervisory officers. It is a little bit difficult, however, to advocate a square deal and the application of the Golden Rule to foremen who have not been given the same consideration as to rates of pay, hours of service and working conditions, as have the men whom they direct and supervise.

For instance, it is difficult to understand, and yet there are roads on which foremen giving the most loyal and painstaking service are "docked" if they are forced to remain away from work for a single day because of illness. Practices also, which were long ago thrown into the discard in their application to the rank-and-file, have not been changed with respect to the foremen; indeed, many capable workers in some departments on some roads either hesitate to accept or refuse promotion because of the unattractiveness of the lower supervisory positions.

As one railroad officer remarked: "We have arrived at the age in railroading where promises and good intentions are no longer attractive. Voluntary deeds that have for their results benefits to these men in supervisory positions, will bring about a vastly different condition than now exists."

The fact that the supervisory officers are not in all cases being given a square deal is possibly due to the fact that they have been so loyal and devoted that they have failed to voice or emphasize the conditions under which they are working. The real situation is therefore not recognized or understood by the officers in charge. Might it not be well for the head of each department to make a careful and thorough survey of the conditions affecting the men holding minor supervisory positions under their direction? The facts would not be difficult to obtain and a few changes accompanied by expressions of appreciation might be a large factor in improving the morale of the entire department or organization. There will then be no question as to how well-treated, trusted foremen and supervisors will interpret the management and its policies to the men working under them.

The Superintendents' Association Is Progressing

THE American Association of Railroad Superintendents has made gratifying progress in the last three years. Outsiders who are interested in the association know it; the members themselves know it, as their stimulated attention to and interest in the work of the association shows. It is only a question of time until the Superintendents' Association will take its rightful place in the front rank of railway officers' organizations. It is not there yet, as the members themselves recognize, but it is getting there. This is good news because there is much to be done by a properly functioning association of operating officers.

The recent convention at Richmond showed how far the association has advanced within the last two years. In the first place, it was largely and enthusiastically attended. More than 300 members from all parts of the country, even the Pacific coast, made the long journey to Richmond to attend its sessions. The increased interest in the association on the part of railway managements is particularly interesting. This took the form at Richmond of orders for full reports of what transpired at the convention to be submitted by the members to their superior officers. Several roads made this stipulation before sending their officers to the convention. This is a healthy sign, of great value to the association.

At Richmond there was an air of "Do the work and do it right," which held the members to the convention hall long past the stated hours for adjournment and stimulated extended discussions of the papers and reports presented. It goes without saying that a convention where such devotion to the work at hand is encountered is a success. The reports, too, were well worth the close attention they received. Almost without exception they were carefully prepared and completed far enough in advance so that copies could be distributed to the membership several weeks prior to the opening of the convention. Furthermore, the recommendations made were sound and the information compiled valuable and practical. All of these things contributed to the best convention the Superintendents Association has ever held.

What lies ahead? What should be done to make the association better next year than it was this year? In the first place, the members must recognize that if their

acts are to carry weight, they must have the weight of authority behind them. Nothing should be passed by, nothing should be left undone, which will add to the prestige and authority of the association. Without exception, the recommendations of the association should reflect the studied, deliberate conclusions of the members and these should be put into practice where consistent and possible to do so. Members must get themselves in the frame of mind in which they will say to themselves, "It is important that railway operation be more efficient. It is our privilege and duty to make it so. We accept the responsibility." The answer, of course, is work, hard work, and work not only for the members individually, but for the association as a whole. It would be well also for the association to set up a mark of operating efficiency to shoot at. Such a mark was suggested at the Richmond convention but was not accepted.

Articles in the July Railway Mechanical Engineer

Character of Wheel and Rail Contact, by John P. Kelly, Senior engineer, Bureau of Signals and Train Control Devices, Interstate Commerce Commission. A discussion of the characteristics of wheel and rail contact in which is shown the effect of braking on wheels having flat spots or when moving over depressions in the track. Page 448.

Schneider Hydraulic Transmission for Diesel Locomotives. This article gives a description and operation of the Schneider hydraulic transmission, in which a combination of mechanical and hydraulic couplings are employed. Tests show high efficiency. Page 468.

Books and Articles of Special Interest to Railroaders

(Compiled by Elizabeth Cullen, Reference Librarian, Bureau of Railway Economics, Washington, D. C.)

Books and Pamphlets

The American Labor Who's Who [1925], edited by Solon deLeon. Biographical sketches of labor leaders, with indexes by unions, and geographical divisions. 374 p. Pub. by Hanford Press, New York City. \$5.00.

Financial Results of the British Group Railway Companies in 1924. "Reprinted from Railway Gazette, April 24, 1925." 34 p. Pub. by Railway Gazette, London, Eng. 2 shillings.

Giant Power. Report of Pennsylvania Giant Power Survey Board, February, 1925. Railway electrification, p. 36-37. Steam railroads in Penna., p. 236-238. 480 p. Pub. by Telegraph Print. Co., Harrisburg, Pa.

"The Industrial Disputes Investigation Act, 1907," as Amended . . . and an Index Thereto, compiled by Department of Labor, Canada. Contains amendments of 1925 made necessary by decision of Judicial Committee, Privy Council, January, 1925, declaring Act invalid. 21 p. Pub. by F. A. Acland, Ottawa, Canada.

Universal Directory of Railway Officials, 1925. Compiled from official sources, giving names and addresses of officials of the railways of the world. Carefully indexed. 426 p. Pub. by Directory Publishing Co., Ltd., London, Eng. 20 shillings.

Uses of Wood by Railroads. A List of References to books, committee and organization reports, general articles, etc. 51 p. Issued by Library, Bureau of Railway Economics, Washington, D. C. Apply.

Letters to the Editor

Mechanical Division Meeting

CHICAGO.

TO THE EDITOR:

Wish to very strongly commend the sentiments expressed in the editorial comment on Mechanical Division meeting in the *Railway Age* of June 20, page 1504, particularly with reference to railway supply representatives and affiliated members of the Division.

My feeling for the Division was so strong that, in spite of the inferred inhibition, I was in attendance and on the floor twice during the meeting, once with reference to discussion of locomotive design, and again with reference to the standard car.

My experience has been such that I felt a word from me was not amiss and, no doubt, since the receipt of the delayed papers, other affiliated members have noted opportunities for discussion of value which they might have contributed. Have always appreciated my share of the opportunity afforded by the Associations in development of experience on the part of those in attendance, my attendance having passed the life membership age, although not directly connected with railroad service for the past twelve years.

C. A. SELEY,
Consulting Engineer.

Why Cut off the Locomotive?

TOPEKA, Kan.

TO THE EDITOR:

I have read with interest the letter by F. B. Farmer in the May 2 issue of the *Railway Age* discussing the question of permitting the locomotive to remain attached to the train while taking coal or water. When I originally brought up the subject in my letter which was published in the issue of November 29, 1924, it was not with the idea that such a practice could be made universal. Experience on mountain railroads made it clear that under some conditions it would be impracticable. But I can assure you that it is not only practicable on the average level railroad, but has been proved by test to be a time and money saver as well. It may be that we have unusually skillful engineers on the Rock Island, but I feel quite certain that what we can accomplish is equally possible on other railroads.

I think that Mr. Farmer and the St. Louis Air Brake Club will admit that an engineman of ordinary skill can bring his train to a stop within eight or ten feet of a water crane or coal chute. Having done this, he can then slack ahead slowly and make his spot with his independent brake without any of the consequences related in Mr. Farmer's letter, thereby permitting the train brakes to be pumped up to standard pressure and released ready to go as soon as coal or water is taken.

In a number of tests made with 80-car trains a shock recorder located in the caboose failed to indicate any stop of sufficient suddenness to make a shock mark on the tape. These same tests showed that with the locomotive not cut off, the train was under way within four to six minutes from the time of the stop as against eight to twelve minutes where the locomotive was cut off. In the former case no brakes were found sticking as the train pulled by, while in the latter case it was necessary to bleed brakes off that had failed to release after the train had commenced to move. Surely there would be more opportunity for slid flat wheels under such circumstances.

These tests were made under the supervision of our road foremen who are on record as being heartily in favor of the proposed handling.

The day has come when we have got to make higher speeds and fewer stops with freight trains and these stops should be as brief as possible. We handle a large number of fruit trains that make short stops at icing stations without any of the bad results that have been predicted and the same enginemen who are able to do this day after day are able to handle their coal and water stops successfully. On my territory we handle, exclusive of locals, about 11,000 freight trains a year. On a basis of two stops per train a saving of three minutes at each stop would mean about \$23,000 a year based on the A. R. A. figures for cost per train-hour. It seems to me that this is something worth thinking about. We have revised our train rules to permit trains to be restricted by train order without stopping them. It is time we gave some thought to eliminating this "cut-off" rule which may have been all right in 1886 but is decidedly out of date now.

KEPLER JOHNSON,
Train Master, Chicago, Rock Island & Pacific.

That Mechanical Meeting

NEW YORK CITY.

TO THE EDITOR:

"The Mechanical Division Meeting," the strong editorial in your issue of June 20, 1925, very properly pleads for even broader and better work for that important Division.

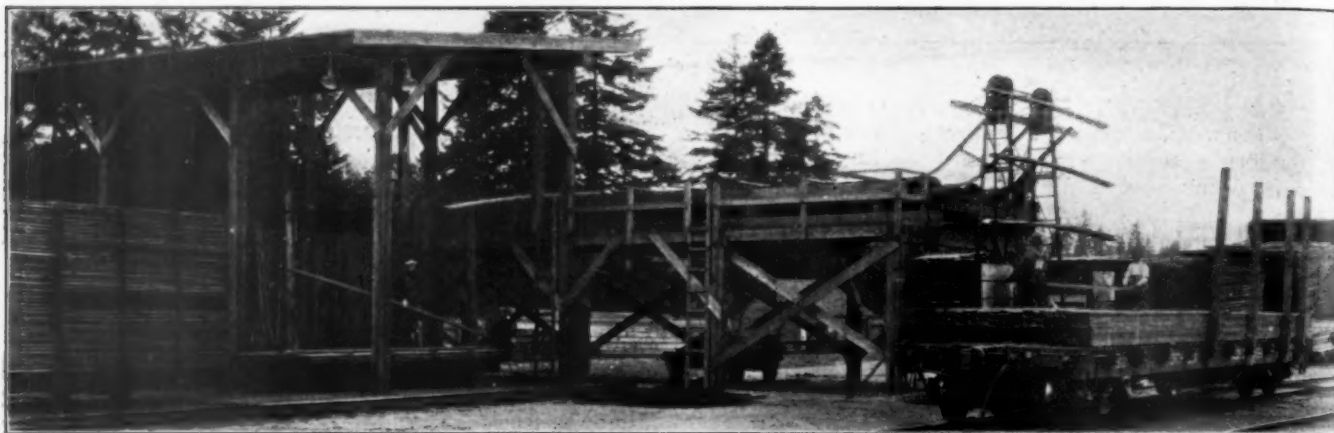
An inherent difficulty in the present line up of the various divisions of the American Railway Association is in expecting a busy department head of one carrier to give sufficient time to all carriers during his short year as chairman of a division.

One way to improvement would be to elect a chairman for say a five or six year term to give his entire time to the chairmanship. The chairmen of the various divisions would then be located in Washington and form the cabinet of the president of the A. R. A. The wise example of organized labor and of the National Chamber of Commerce might be followed and the A. R. A. erect its own monumental building in Washington. Below might be a transportation museum, one of the sights for Washington tourists; above, offices, committee rooms and a convention hall. Why Washington? Because of the wholesome political influence which would result as a by-product from the technical and scientific phases. The railroads have been timid in maintaining themselves in Washington. The cant about a lobby and high salaries must be vigorously met. An industry including some of the best brains and blood of the country and a property investment of nearly \$25,000,000,000 is entitled to and can defend both a legitimate lobby and high salaried representatives. Other technical specialists besides the lawyer and the publicity man have a necessary part in this representation.

The railroads are too frequently on the defensive in public regulation matters. Constructive foresight cultivated by intensive, authoritative consideration enables them to assume the aggressive and forestall radicalism. Divisions headed by such types of outstanding figures as Frederick A. Delano, an old mechanical superintendent; John F. Stevens, an old chief engineer; the late W. V. S. Thorne in supplies and purchases; the late Albert Fink in traffic, would function effectively not only in their own important spheres but also in the education of public opinion to an appreciation of practical railway conditions.

The splendid work of the able and lovable president of the A. R. A. and of the Car Service Division show what can be done by intensive effort.

CHARLES HINE.



Loading the Lumber on the Kiln Cars at South Tacoma, Wash.

Northern Pacific Improves Lumber Seasoning Facilities

Opening of new dry kiln by stores department equips road for all needs—Economies reported

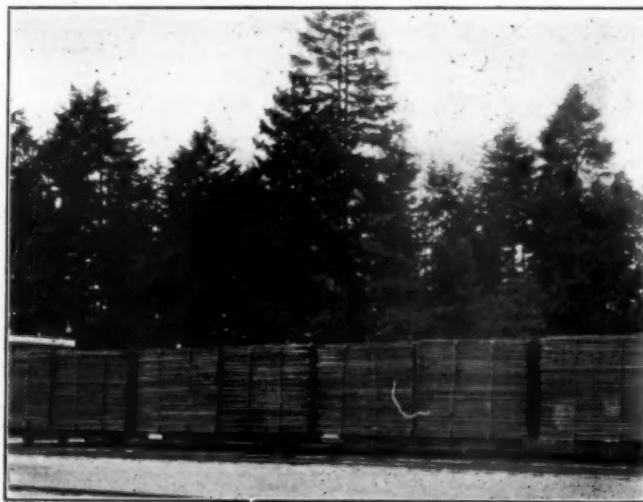
WITHIN the last few months, the Northern Pacific has built a dry kiln at South Tacoma, Wash., which supplements a somewhat similar plant built in 1922 at Brainerd, Minn. These facilities, located at the two system lumber yards, are operated under stores department management. Their function is principally to season 2-in. stock or under, purchased for use in repairing and rebuilding cars and locomotives and for building maintenance.

Kilns Not New on Northern Pacific

While kilns are to a degree novel in railroad practice, kiln drying is not new with the Northern Pacific, but a practice which has been followed to a considerable extent by the company for upwards of 25 years, since the Northern Pacific began buying rough unseasoned lumber for repairing cars and locomotives. At that time, a dry kiln was built at South Tacoma, Wash., where large car repair shops are located, together with the largest of the road's lumber yards, this yard carrying an average of twenty million feet of lumber. This kiln consisted of a simply constructed rectangular house about 80 ft. wide and 250 ft. long which was partitioned off in several compartments ranging, as subsequently remodeled, from 21 ft. to 27 ft. in width. This building provided capacity for about 300,000 ft. of lumber at one time which was placed in the enclosure by the usual method of loading on trucks and pushing these trucks over tracks laid from the point of loading into each compartment.

This kiln was hardly more than a warming house, seasoning being accomplished merely by heating the air in the building by steam pipes hung in these compartments, no provision being made for preliminary saturation or for regulating the humidity. Under these conditions the seasoning was a slow process and the output of the plant correspondingly low. The time required for seasoning ranged from 240 hr. to 300 hr. This output had become insufficient to the point of requiring the annual

purchase of from two to four million feet of finished lumber for car repair purposes in addition to that finished at the company's shops from green stock. The lumber handled by the kiln also underwent some undergrading as a natural consequence of the imperfect methods of seasoning and the cost of operation was thought to be unnecessarily expensive. The experience with this plant, however, was by no means such as to induce the management to abandon its policy of buying green lumber. In-

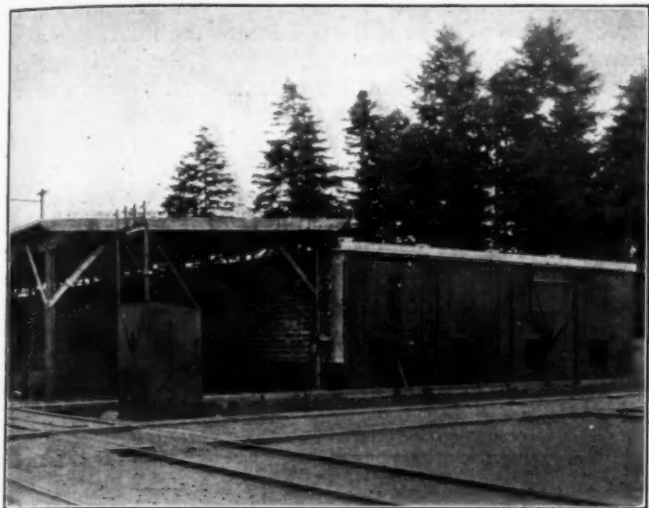


Trucks Loaded with Green Lumber Ready for the Kilns

stead, it was from the results obtained that the road was encouraged to inaugurate kiln drying at Brainerd in 1922, this being the other large car repairing point on the system. It was the results obtained from the Brainerd kiln, in turn, which led to the replacement of the old kiln at South Tacoma this year with a modern facility.

The New Kiln is a High-Humidity Type

The new kiln at South Tacoma, like the Brainerd kiln, is of the high-humidity type, so called, and resembles the Brainerd installation in other respects although having more modern facilities for handling the lumber. The entire plant occupies an area about 100 ft. wide and 300 ft.



The New Kiln and Transfer Table at South Tacoma

long between the old kiln (since converted into a dry storage), and the lumber yard. The track which runs from the lumber yard to the woodworking shop lies alongside the kiln, thus affording a ready approach to the kiln for all unseasoned stock and a direct haul from the kiln to the mill.

The kiln itself is a one-story flat roofed building of tile. It is 49 ft. wide and 106 ft. long over-all, with the forward 95 ft. divided lengthwise into four compartments, each 12 ft. wide, leaving the rear 11 ft. of the building for the heating and ventilating equipment. A standard gage track running the length of each compartment affords the means of charging the kilns with the lumber. In addition, two tracks, each 126 ft. long, are laid parallel with the kiln tracks in the area between the kiln and the lead to the shops. A timber roof extends from the kiln house out over these tracks, thus equipping them for use as dry storage tracks between the time of

kiln tracks, the dry storage tracks and the shop lead, the arrangement being such that the kiln cars can be run out on the shop lead when desired and dispatched wherever desired throughout the yards, gasoline motor cars furnishing the power required for this purpose. This transfer table also serves a collection of tracks laid out in front of the kiln for loading the lumber preparatory to charging the kilns. There are five of these tracks in all, four of which are laid on a down slope of 1.9 per cent from a lumber stacker to the transfer table, thus facilitating the movement of the lumber cars toward the kiln, while the fifth track is laid on the same slope but in the opposite

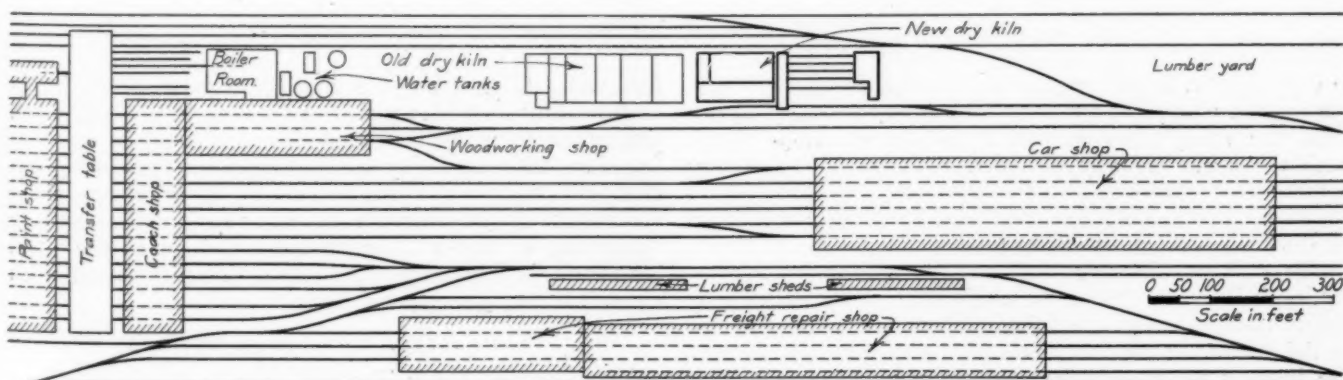


The Interior of the Blower Room, Showing Unit Heaters and Ventilating Fans

direction to facilitate the return of the empty cars to the loading point. Communication between these five tracks at the loading end is accomplished by a second transfer table which is hand-operated.

Quick Work Made of Lumber Handling

An interesting feature of the new kiln is the method of transferring the green lumber from the cars to the



The Yard Layout at South Tacoma, Wash., Showing Relation of Dry Kiln to Shops

removal from the kiln and their transportation to the mill for finishing.

An electrically operated transfer table, 20 ft. wide, and extending across the kiln area a few feet in front of the kiln doors, provides convenient communication between the

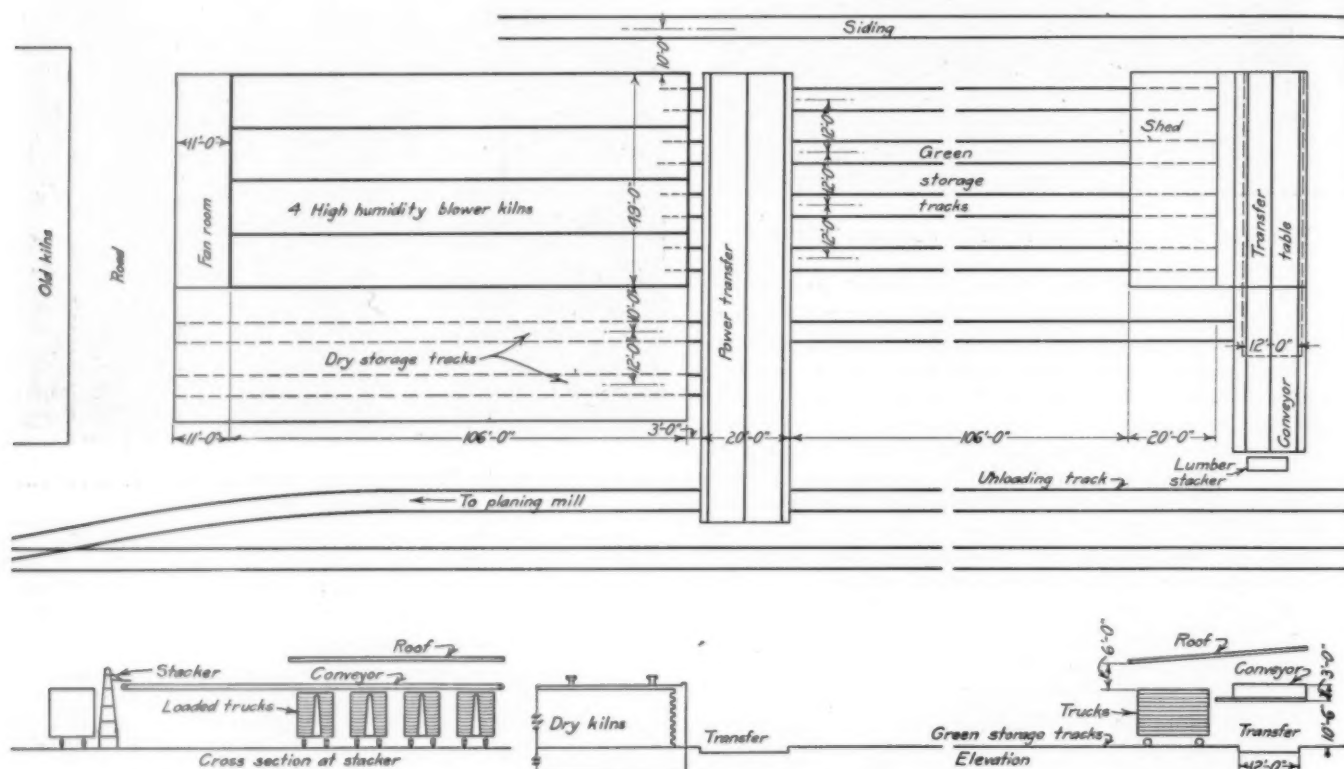
trucks that enter the kilns. The equipment for this purpose consists essentially of a Hilke stacker and a chain conveyor, the latter operating on a timber platform built several feet above the ground at right angles to the tracks. The stacker is adjacent to the unloading track and serves

to elevate the lumber piece by piece as it is unloaded from the car. As the stacker chain reaches the highest point in its travel and starts downward, the lumber falls on three horizontal skids and is caught by the conveyor chains which proceed to carry it out along the platform until picked off for piling on one of the trucks being loaded for the kiln.

These trucks are substantial open steel frames carried on two axles upon which the lumber is piled so that a core taking the form of an inverted V is left through the center of the load while, with the aid of strips, an air space is also left between the faces and edges of each piece of lumber. The operation of loading these trucks requires four men, two on the car feeding the stacker and one on the elevated platform to catch the pieces and feed them to the fourth man who is engaged in piling the lumber on the trucks. There are 70 of these trucks in Tacoma and 40 at Brainerd. When each truck is piled

length of the track under the concrete floor and enters the kiln through a series of louvers between the tracks. These louvers, the openings in which can be regulated, direct the air into the center of the lumber pile on each truck from whence it distributes itself uniformly throughout the load.

Uniform distribution of the air is promoted, and the circulation necessary to rapid drying is accomplished by means of two additional ducts beneath the floor, one near each wall of the compartment, whereby the air is sucked back into the heating unit for reheating and recirculation. In addition to these louvers through which the air passes into or from the kiln during seasoning operations, each compartment is also equipped with a series of steam jets, the purpose of which is principally to saturate the lumber prior to seasoning so that the rapid drying will not cause case hardening or checking of the lumber by drying the outside before the moisture from the interior has been



The Plan of the Kiln Drying Facilities

to capacity, the loads range from 5,000 to 7,500 ft. They are pushed along the track and an empty truck obtained from the transfer table, this procedure being followed until the track is fully occupied with trucks when the operation is transferred to the next track. When 20 to 24 trucks are loaded, they are held in storage until the kiln is ready for its next charge.

The striking difference between the new and old kilns at South Tacoma lies in the equipment of the kiln itself and in the process of seasoning. There are no steam coils in the seasoning compartments of the new kiln. Instead, the heating is accomplished by the draft from a special unit in the blower room to the rear of the kilns, there being one independently operated unit for each compartment. This equipment consists essentially of a compact coil of steam pipes contained in a rust resistant metal boxing from which an electrically operated blower fan draws the heated air and forces it into the kiln. This air reaches the kiln through a concrete duct extending the

removed. Completing the equipment is a steam jet in each heating unit with which to maintain a predetermined amount of moisture in the air during the drying process, together with humidity and temperature recording instruments with which the process is either automatically controlled or information made available for periodic regulating by hand. The moisture content of the wood before or during the process of seasoning is tested in an electric oven by the plant operator.

Kilns Afford Substantial Savings

The plant of South Tacoma, even to a greater extent than the plant at Brainerd (where all loading of trucks is done by hand) has proved equal to expectations. Although considerably smaller than the old kiln, its capacity is larger and the process markedly faster, it being stated that satisfactory seasoning is possible in from 48 to 72 hours (depending upon whether the wood is one or two-inch material), as compared with a period of from

15 to 17 days with the old installation. Aside from the better seasoning possible and the added dispatch of producing any run, the new kiln also saves from \$1.10 to \$1.20 per thousand feet over the old kiln, this saving resulting from seasoning of the lumber while in transit from the yard or car to the mill without having to unload it as before. The actual cost of operation averages about \$1.80 per thousand feet as compared with a cost in the neighborhood of \$4.50 or \$5.00 for commercial seasoning. With the new kiln in operation, the company expects to reduce its kiln stock 8,000,000 ft. with the corresponding reduction in the carrying charges on this quantity of material.

The new facility was built at a total cost of approximately \$60,000 under a contract with the Northwest Blower Kiln Company, Seattle, using equipment of the B. F. Sturtevant Company, Boston, Mass. As indicated at the outset, both installations are operated under the management of the purchasing and stores organization.

I. C. C. to Consider Revenue Needs of Western Roads

WASHINGTON, D. C.

THE Interstate Commerce Commission has decided to consider the petition filed on April 30 by the western railroads seeking an increase in their revenues, which it has docketed as Ex Parte 87, with its general investigation of the rate structure under the Hoch-Smith resolution, No. 17000, and has assigned the two proceedings for joint hearing before Chairman Aitchison at Chicago beginning on September 1. This plan of procedure is in accordance with a suggestion made by the western roads in their statement filed with the commission as to the procedure to be followed in the general rate structure investigation, that the commission investigate the revenue needs of the carriers in the Western and Mountain Pacific rate groups as a foundation upon which to conduct such other inquiries as may be necessary. This statement was followed up by the roads with a specific petition asking the commission to issue the necessary order or orders which will result in yielding to the carriers operating in the western district a net rate of return of not less than five and three-quarters per cent.

It is understood that the commission has given a good deal of consideration to the plan of procedure to be adopted, including such questions as whether the inquiry should be limited to the group of roads in worst need of an increase, such as those in the Northwestern region, and also as to whether the subject should be considered in connection with the Hoch-Smith investigation, which involves the question of whether rates on agricultural products should be reduced. By deciding to deal first with the western district in its general investigation and combining Ex Parte 87 with it the commission has arranged for a proceeding that will consider at the same time what if any reductions may lawfully be effected in rates on agricultural products and also what if any rate increases may be made.

The roads in their petition did not express any preference as to the method of increasing their revenues, whether by a general increase or otherwise, but showed a shortage in 1924 as compared with a return of 5¾ per cent on property investment, which was equivalent to about 11 per cent of their freight earnings.

The commission's announcement, made public on July 14, after referring to its previous notice regarding the

general investigation and the petitions of the western roads, proceeds as follows:

The views and suggestions in response to the notice to the public in No. 17000, and the petitions of the western carriers in Ex Parte 87, have been given consideration, and as the issues presented in Ex Parte 87 constitute a necessary and important part of the issues in No. 17000, the commission is assigning these proceedings for joint hearing.

Although the resolution is of broad scope, it specifically directs that, in view of the depression in agriculture therein stated to exist, the commission shall effect with the least practicable delay such lawful changes in the rate structure of the country as will promote the freedom of movement by common carriers of the products of agriculture affected by that depression, including livestock, at the lowest possible lawful rates compatible with the maintenance of adequate transportation service.

The commission has concluded that it should first deal with the western district in order—

1. To determine what products of agriculture, including livestock, are affected by depression;
2. To determine what, if any, reductions may lawfully be effected in the rates or charges on products of agriculture, including livestock;
3. To determine whether any rates, fares, or charges, either on particular classes and kinds of commodities or classes of traffic, in particular sections or between particular localities in the western district, or otherwise, may lawfully be authorized or required to be increased, and if so, to what extent, in order to compensate for such rate reductions, if any, as may be found proper; and
4. To determine whether any rates, fares, or charges, either on particular classes and kinds of commodities or classes of traffic, in particular sections or between particular localities in the western district, or otherwise, may lawfully be authorized or required to be increased, and if so, to what extent, in order to effect such increases in the revenues of western carriers as may be found proper.

These matters should be covered by definite and specific data. State commissions are co-operating with us in the *Rate Structure Investigation* and such data insofar as practicable should be separately stated as between interstate or foreign commerce, on the one hand, and intrastate commerce on the other hand. Among the data desired are statistics showing individually for each Class I railway in the western district for the calendar years 1923 and 1924 the number of tons, number of ton-miles, number of carloads, and freight revenue for each of the 70 classes of commodities named in schedule 541 of the annual report of large steam-railway companies to the commission, omitting the number of carloads from class 70, which relates to less-than-carload freight. The carriers should furnish this information as promptly as possible. Exhibits should conform to Rule XIII of our Rules of Practice.

The initial hearing will be held at Chicago, Ill., at the Edgewater Beach Hotel, before CHAIRMAN AITCHISON, beginning September 1, 1925. At this hearing the carriers, being respondents in this proceeding, will be heard first and will be expected to submit as far as possible their complete proposals, including all data called for in this notice, together with such other evidence as they may desire to offer.

In order to afford other parties opportunity for study of the carriers' proposals and evidence, the present intention is that, following the carriers' presentation and such cross-examination as may be appropriate at that time, a short adjournment will be taken. At the adjourned hearings, opportunity will be afforded for further cross-examination of the carriers' witnesses and for introduction of direct evidence.

If any parties, other than the carriers, desire to introduce evidence at the first hearing after the carriers' presentation, they should so advise the commission on or before August 10. The carriers should advise, as soon as possible, of the order in which they will be prepared to present the various matters to be submitted by them and the dates on which they desire to introduce evidence under each head. Following receipt of the above information, a further announcement will be made for the guidance of parties.

AN INVESTIGATION into rates and classes in commodities moving between points within the state of Texas has been instituted by the Interstate Commerce Commission following the filing of a petition by the Galveston, Harrisburg & San Antonio, the Southern Pacific, and the El Paso & Southwestern of Texas, charging that the prescribed rates for the transportation of freight between points within the state of Texas as established by the Railroad Commission of Texas will result in undue and unreasonable preference and advantage to intrastate commerce and prejudice and disadvantage to interstate commerce.

A Plan for Railroad Consolidation

Attitude of Short Line Railroad Association toward Nickel Plate merger

WASHINGTON, D. C.

A STATEMENT of the attitude of the American Short Line Railroad Association in the matter of the Nickel Plate merger proposal and as to the consolidation question generally, together with a suggested plan for consolidation of railroads in accordance with the present law, has been filed with the Interstate Commerce Commission by Ben B. Cain, general counsel of the Association. The law, he says, does not require an allocation of all the railroads to systems in accordance with a map, but should consist of a set of principles broad enough and elastic enough for the disposition, allocation, acquisition or consolidation of particular properties that would be in harmony with the spirit and letter of the law and also practicable. He takes the position that the Nickel Plate application should be granted, with reservations safeguarding the interests of other carriers. An abstract of Mr. Cain's statement follows:

Questions Raised by the Application

Exclusive of such issues as have been injected into this proceeding through the intervention of minority stockholders whose claims seem to be based largely, if not entirely, upon charges of fraud founded in allegations of deficit and bad faith upon the part of officers and directors, there are two questions that must be determined by the commission: (1) Can the commission legally grant the application? (2) Ought it be granted?

Obviously attorneys for the applicant interpret the provisions of paragraph (2) of section (5) as authorizing such consolidations as are here proposed, this view of the law seeming to be based upon the fact that the properties of the proposed constituent corporations will not be consolidated into one corporation for ownership, management and operation but will be maintained under separate corporate management in the nature of subsidiary companies.

It is not my purpose to discuss at length the question as to whether the applicants correctly interpret the provisions of paragraph (2) but in fairness to the commission I feel impelled to say that the authority conferred upon one carrier to acquire control of other carriers under lease or by purchase of stock or in any other manner not involving the consolidation of such carriers into a single system for ownership and operation, must be read in the light of other paragraphs of section (5) and with the paramount purpose of ascertaining the intent of Congress in the use of the terms employed in said paragraph (2).

The first question that the commission must determine in the instant case is whether or not such a merger or consolidation, as here proposed, is in legal effect the consolidation of the carriers into a single system for ownership and operation.

I have not presented this view of the case for the purpose of invoking it insofar as the American Short Line Railroad Association is concerned. My purpose is merely to anticipate the position that has already been taken by at least one member of the commission in former cases and will certainly be asserted in regard to the pending application, and to fairly state my own views.

Assuming that the commission may conclude that a strict interpretation and application of paragraph (2) does not empower it to approve the pending application, the question of outstanding importance then is: What action should the commission take in regard to the pending application? This necessitates a consideration of the whole law as set forth through the several paragraphs of section (5) of the interstate commerce act.

Section (5) of the Interstate Commerce Act

The main, if not the only, purpose of Congress in the enactment of section (5) of the interstate commerce act is obviously to bring about consolidation of the railroads of continental United States into a limited number of systems. Congress realized that complete consolidation could not be accomplished in a short length of time, and it likewise realized and recognized the importance of permitting certain procedure in line with complete consolidation, hence included section (5), paragraph (1), which authorizes the pooling of freight and divisions of earnings, and paragraph (2), which authorizes the acquisition by one carrier of the control of another

carrier or carriers by lease, purchase of stock, or otherwise, not involving the consolidation of such carriers into a single system for ownership and operation. All the other paragraphs of section (5) deal specifically with the complete consolidation of the railway properties of continental United States into a limited number of systems.

Paragraph (2) does not stand alone, separated from its context, and it would, therefore, be a highly contradictory result if the commission should authorize a merger by acquisition, through lease or purchase of stock or otherwise in the public interest, which would not be consistent and harmonious with, and pursuant to and in furtherance of, some plan of consolidation under paragraph (5), also in the public interest.

It is plain to be seen, therefore, that to avoid possible contradiction, any act the commission may be authorized to do under paragraph (2) must be consistent with and in pursuance of such plan as the commission was directed to adopt "as soon as practicable" under the terms and provisions of the whole act, now five years old.

I can see no real difficulty in harmonizing and giving full effect to paragraphs (2) and (5), respectively, if it is borne in mind that the language of paragraph (5) does not compel the commission to adopt a MAP in advance of a complete plan for consolidation nor to definitely allocate each and every carrier into rigidly preconceived systems.

The mandate of the commission is to adopt a PLAN. * * *

It is true that in sub-paragraph (a) of Paragraph (6) Congress declares consolidation must be in harmony with and in furtherance of the "complete plan" of consolidation mentioned in paragraph (5) but it is obvious that the expression "complete plan" merely means such plan as shall have been adopted after the hearing of objections to the tentative plan. This does not indicate, nor is there anything in the law that does indicate that Congress used the word "plan" in the concrete rather than the abstract, hence the commission is warranted in giving such interpretation to the word "plan" as will make the law practical and thus effectuate the intent of Congress.

If the term "plan," as used in the act, be so interpreted as to require a complete map or the complete allocation of all of the railway properties of the United States into a limited number of systems, then the tentative plan which the commission has heretofore agreed upon and as to which it has conducted hearings was not in accordance with the law, because the tentative plan did not pretend to deal with a large number of the railroads for the very good reason that it was impracticable, if not impossible, to do so just as it is impracticable and probably impossible to do so at the present time.

Logically, a plan such as is practical and such as Congress must have contemplated should consist of a set of principles, the result of which may, but does not necessarily require to be illustrated or depicted by graphs or maps. A plan is conceivable which would comprehend a basis of principles broad enough and elastic enough for the disposition, allocation, acquisition or consolidation of particular properties that would be in harmony with the entire spirit and letter of section (5), and at the same time make possible progressive consolidation of the carriers, which to my mind is the only practicable way in which consolidation can be accomplished.

It must be remembered that the transportation act of 1920 is a remedial act. The commission will be acting in the line of its duty, as well as within the plain provisions of the law, if it so interprets the law as will give it practical effect. The only possible way in which the several paragraphs of section (5) can be harmonized and the purpose of Congress and policy of the Nation effectuated, is for the commission to consider every provision of section (5), including paragraphs (1) and (2), as parts of the machinery and authority for ultimately consolidating all the roads as set forth in the succeeding paragraphs.

In order to make my views clear, I submit a plan for consolidation of railroads in accordance with the new law. It may not be such a plan as the commission would adopt. I do not so present it.

I do present it in order to show that *some plan* can be adopted that does not necessarily involve immediate allocation of the carriers or the making of a map. In such a plan a map would necessarily be ultimately created and follow action under the plan, but would not constitute the whole plan and precede consolida-

tion as if a map should first be made. The plan I suggest as follows:

A Plan for Consolidation

1. Divide continental United States into four Districts or Zones, viz., New England, Eastern, Southern, and Western.

2. Designate certain of the largest railroads in each District as "group heads" around which it is permissible to construct consolidated systems under rules made part of the plan, provided that other and additional "group heads" may be designated from time to time as may appear needful or desirable; and provided further that resulting systems shall in all cases be of such mileage and earning power as will conform to requirements of the law and the rules adopted by the commission as part of the plan for consolidation of the railroads into a limited number of systems.

3. Prescribe the maximum and minimum mileage that may be brought into a consolidated system.

4. Require applicants for authority to consolidate to comply with the following rules:

Rule (a) Show the proposed consolidation will promote the public interest.

Rule (b) That it will not have the effect of substantially destroying competition which it may be possible to preserve, if such proposed consolidation is not allowed in the manner or to the extent proposed.

Rule (c) That existing routes and channels of trade will not be disturbed or if changed that it is not practicable to avoid it.

Rule (d) That such proposed consolidation will, in reasonable probability, not make it impossible for other systems in the same district to be so constructed as that the cost of transportation as between competitive systems and as related to the values of the properties through which the service is rendered shall be the same so far as practicable, so that the several systems can employ uniform rates in the movement of competitive traffic and under efficient management earn substantially the same rate of return upon the value of their respective railway properties.

Rule (e) That a proposed consolidation is in harmony with the policy of completely consolidating all the railroads in the particular district and continental United States into the limited number of systems and is in furtherance of that purpose.

5. In all orders approving consolidation the commission will attach, for rate making and other lawful purposes, such other carriers as the commission considers ought to actually belong to such group; also reserve the right to attach other carriers from time to time as may seem needful or desirable in order to establish a proper rate structure and equitably distribute the revenues derived from the rate structure so that individual carriers not actually consolidated may nevertheless earn a fair return.

6. That pending voluntary consolidation the commission will as soon as practicable group all the roads in each District into tentative systems, such grouping to be used for rate making and such other regulatory purpose as may be deemed proper, and also to be considered by the commission in its determination of such applications for consolidation as are presented for its approval.

7. Reserve the right in all orders approving applications for consolidation thereafter, until all railroads in a given district are finally consolidated, either upon its own motion or upon application, to reopen the subject for such changes or modification as in its judgment will promote the public interest.

The tentative plan which the commission promulgated August 3, 1921 could be appropriately used as the basis for the foregoing plan in which event consolidated systems could be constructed around group heads for example, as follows:

Group Heads

New England

New York, New Haven & Hartford

Eastern

New York Central
Pennsylvania
Baltimore & Ohio
Nickel Plate

Southern

Atlantic Coast Line
Illinois Central
Seaboard Air Line
Southern

Western

Union Pacific
Burlington
Milwaukee
Santa Fe
Southern Pacific-Rock Island
St. Louis & San Francisco
Missouri Pacific

Note—Group heads will be increased if and when it appears needful or desirable in the public interest.

The proposed plan is merely to show that it is possible, in strict

accordance with section (5) as we interpret it, to grant the Nickel Plate application if facts are proven sufficient to show that it is in the public interest. For instance, if the commission decides that it is in the public interest to permit the C. & O. to be absorbed in the proposed merger the plan suggested could be made sufficiently elastic to cover such a situation by the addition of a rule or proviso to the effect that if and when it should be made to appear that there is special reason in the public interest for a railroad in one territory or district to be consolidated with a railroad in another district, the commission reserves the right to approve such consolidation, anything in the general plan to the contrary notwithstanding.

The Short and Weak Lines

Having thus presented my views as to the law, I next address myself to the instant case as it may affect the interest of what are commonly called the short line railroads. Let us forget, I want to remind the commission of the fact that the problem which has always seemed insurmountable in the successful regulation of the railroads of this country is that of the weak road. It was that problem that Congress found most difficult and intended to solve in the construction of the transportation act of 1920, and it is that problem which confronts this commission today.

No thoughtful or patriotic citizen believes for a moment that the weak and short railroads as a class can or should be abandoned. In dealing with the problem Congress reached the conclusion that some carriers ought to be abandoned and it gave to the commission power to eliminate such roads from the transportation system; but as to those which ought not be abandoned Congress reached the conclusion that public interest could best be served by their reservation; hence it adopted the policy of consolidating the railroads of the United States into a limited number of systems and required the commission, as soon as practicable, to announce a final plan in the line of accomplishing that purpose.

There are those who seem to believe, and who persistently declare, that section (5) of the interstate commerce act does not promote, but rather obstructs, consolidation if the carriers are required to fully comply therewith because, as they argue, a plan means allocation of all the roads and this would result in the weak roads holding their properties at too great a price. One whose voice has, perhaps, been more convincing than others, is a former member of this commission, who, in published interviews, has taken the position that no complete plan for consolidation of the railroads should be announced; but that the carriers should be permitted to make such combinations as they see fit, or, in other words, effect consolidation along natural lines. This view is likewise entertained by some of the presidents of the larger systems, as well as some of the leaders in finance.

We might well pause to inquire what is meant by natural lines. The first law of human nature, if not the first law of all nature, is that of self-interest—to appropriate what it wants if it is in a situation to do it. I cannot believe that humanity has been or will be so charged as that those financially interested in a strong railroad will naturally want to acquire a railroad which would not strengthen but to the contrary might possibly dilute the earning power. It follows from this that if the owners of these properties are given unbridled license to gather to themselves such carriers as would naturally be acquired, it will most certainly result in the discard of many carriers which separately, as well as in the aggregate, are important units in the transportation system of the country.

The purpose of Congress and the policy of the Nation, as reflected in the transportation act of 1920, is to furnish adequate transportation to the country as a whole. This commission and the highest court have so interpreted that act.

I dispute the proposition that there is anything in the transportation act of 1920 that ought to, or does in fact, defeat or necessarily defer consolidation of the railroads. What has been pointed out as objectionable is the adoption of a plan, as I see it, wrongly interpreted to mean a complete map. As already shown, the reason usually advanced for such objection by those who criticize the act is that if and when the commission announces a plan and divides the railroads into groups or systems, that then the weak railroads will immediately demand an unfair price for the properties.

Those who present such arguments seem to overlook the fact that the commission has not only the power, but is charged with the duty, of valuing the roads, and there can be no consolidation or merger except at such value as the commission shall approve. In view of this fact and in view of the further fact that consolidation is not compulsory, it seems unreasonable to say that the owners of any railroad really desiring to sell would place an inflated value upon its property. I have tried to show that a complete plan may be adopted and, perhaps, must be adopted that does not allocate all the roads.

But let us suppose this argument as to weak roads is sound. Let us suppose there are roads that are not earning an income, that would demand more than the value of their properties if the

commission should make a map allocating such roads to a particular group. Let us suppose further that the situation should be such as that this group would find it actually necessary to acquire such property at an inflated value. If such an extraordinary event should ever happen, or if it should happen with all of the short line railroads in the United States which ought to be allocated as part of the transportation system, it would at least represent probably less than 10 per cent of the railroad values as a whole.

If the interests that control the railroads of the United States condemn the present law because it does not give unbridled license to exploit the weak roads for greed of gain, then it would be better that there should be no mergers for it will mean quick ruin for the short and weak roads if roads of major strength and earning power are permitted to merge their properties without making some provision for the small and weak roads.

As representative of such carriers I declare here and now that we never can consent to the proposition that this commission shall refrain from bringing out a plan for consolidation of the railroads or that the commission shall allow such consolidations as are here proposed without announcing a policy that will serve to protect the weak carriers while the process of merger is going on.

If less than 10 per cent of the railroad values of this country are to be cast into outer darkness because, perhaps, some few of them might demand an inflated value and prospective buyers might not acquire them at profit-making prices, then we all might as well remain as we are though the temple fall—but I insist that no one honestly believes any such thing could or will happen.

Commission Should Use Its Power

It is my earnest belief that if we have no change in the law and if strong and weak roads will sit together across the table and deal fairly with each other, we could almost immediately adopt a plan of co-operation with the commission that would result in a solution of our problem and the accomplishment of the national policy. The trouble, it seems to me, is, that we are all yielding to the temptation of making money out of the situation, hence are not yet ready to meet each other and the commission in the proper spirit.

I would not be frank if I did not say I have no hope that we will come to such a program unless and until the commission uses its power in the performance of its duty to enforce such a situation. This can be done and I think this case furnishes an appropriate beginning. I am going to shock some of my people, perhaps, and certainly surprise the commission and the applicants, by saying now and here that I think this application should be granted—but it should not be granted without reservation; and it may be the order will have to await adoption of a plan but that should not and may not mean long delay. No matter what position the applicant may take as to the result, I respectfully submit that the duty of this commission is plain. The commission is an administrative agency of the government. The government has declared its policy to be the accomplishment of an adequate system of transportation for the people as a whole. Everybody knows this can only be accomplished in one of two ways: (1), By consolidating the railroads into systems under private operation with broader powers of regulation on the part of the commission, and (2), government ownership and operation.

Students of the railroad problem generally agree that consolidation of the roads can only be brought about by progressive action through a somewhat lengthened period of time. If the application now before the commission is granted, with reservations properly safeguarding the interests of other carriers, and with an eye single to the ultimate consolidation of all the railroads into a limited number of systems, according to the mandate Congress has enacted, then I believe it would be in harmony with the law and will promote the public interest. If on the contrary the application is granted without announcement of a definite policy in line with the purposes of the new law your action will probably come back to plague you.

The Commission's Order

From the views I have thus tried to present it follows that I do not believe the commission will be acting in entire accord with the provisions of section (5) if it should make a complete and final order granting the application of the New Company without first adopting a plan for consolidation of the railroads as required by paragraph (4) of section (5).

The American Short Line Railroad Association is in sympathy with the construction of systems such as is attempted to be accomplished by the applicant. The work done is constructive and in line with the national policy of consolidating the railroads and should be looked upon with favor by the commission and made possible if it can be done in harmony with the letter and spirit of the law and in such a way as not to defer or defeat such consolidation as Congress had in mind in the passage of the new law.

If the commission concludes that it cannot fully and finally

grant the application in advance of a plan, and the procedure prescribed by paragraphs (5) and (6) of section (5), it would nevertheless be proper, in my opinion, for the commission to make a provisional order holding the application open until a complete plan has been adopted as the law requires, thus enabling it to use the record in the instant case as being in support of an application under the plan which the commission shall adopt. In such an event the commission would, as a matter of course, proceed to formally adopt a final plan at the earliest moment practicable and would make its final order upon this application after the final plan has been adopted and notice given which the law requires.

This application seems to me to present a fitting occasion for the commission to announce such a policy as will not only protect all interests but serve to promote consolidation.

Opportunity for Voluntary Action

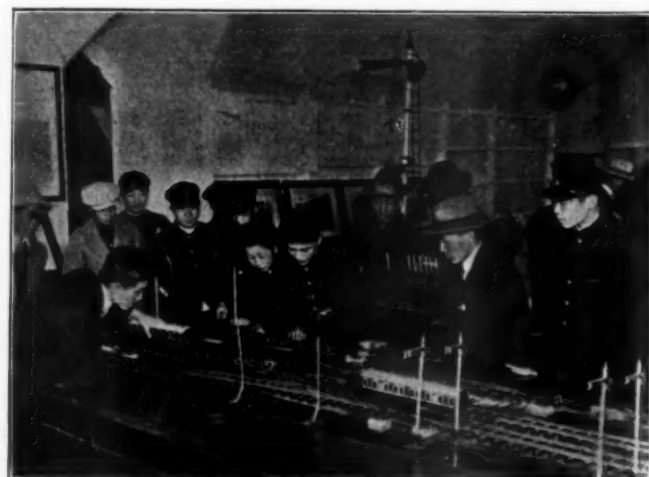
Under such plan as I have suggested the door is left open for voluntary action and it is obvious that complete consolidation will consume much time, hence a provisional policy might well be incorporated in such order as the commission makes in this case which would include the following principles:

(1) That in all cases where it appears a carrier would probably be injured by a proposed merger, the commission will withhold its approval until a satisfactory agreement is reached with such carrier or it is shown that an honest effort has been made to make such an agreement as will avoid injury and such effort has failed, and in such case the commission will approve applications only on such conditions as it deems just and reasonable, and,

(2) That where the commission has allowed or hereafter approves the merger or consolidation of two or more carriers it will, whatever it appears to be in the public interest, attach other carriers to such consolidated group for making rates and the equitable distribution of revenue derived from the rate structure, and so far as the law allows, will otherwise treat such road as though it were actually part of such consolidated system.

(3) Applications for approval of mergers must hereafter give the name and location of each short and weak railroad that connects with a constituent road in the proposed merger, and/or which may be affected thereby, and shall state what, if anything, the applicant has done in the way of reaching an agreement with such road or roads that would be in furtherance of the plan of consolidating such roads into a unified system.

In addition to the announcement of principles such as the foregoing, I respectfully submit that if and when the commission shall make a final order granting the application of the New Company to merge the proposed roads through acquisition by lease or through purchase of stock, that it should be distinctly announced that such control must not in any way or to any extent interfere with consummation of the complete plan of consolidation which the commission must adopt, and if it should thereafter appear that the order and the action of the applicants thereunder in any way or to any extent defers consolidation or interferes with the consummation of such plan as the commission may finally adopt, that then the order may be modified or changed as may be found necessary or desirable in the public interest, and the commission reserves full jurisdiction to make such other or further orders as after hearing it may deem necessary or appropriate amendatory or supplementary to such order as it does make.



P. & A.

Student Railway Employees at Tokio, Japan



American Delegates and Their Families at the International Railway Congress

Among the men are: Standing, Back Row—F. F. Obert, Thos. C. McBride, J. W. Roberts, W. C. Cushing, S. Withington, Harold A. Smith, F. H. Hardin, A. L. Humphrey, Fayette S. Dunn, Col. E. A. Simmons, F. F. Fitzpatrick, P. R. Albright. Standing, Middle Row—Chas. H. Muchnic, Geo. L. Bourne, B. F. Bush, H. E. Newcomet, D. D. Dickson, D. F. Crawford, C. F. Smith, G. A. Harwood, S. T. Wagner, Bird M. Robinson, W. E. Grimshaw, R. W. Bell, H. J. Forster, Donald Rose, Samuel C. Dunn.

International Railway Congress*

Report of the closing sessions—The 1930 meeting will be held in Spain

By Samuel O. Dunn
Editor of the *Railway Age*

LONDON, Eng.

THE tenth session of the International Railway Congress ended here on Thursday, July 2. Many of the delegates and their families finished their visit by going to Darlington to attend the exercises in celebration of the centenary of steam railroad transportation in England, and then going on excursion trips to Scotland and other parts of the British Isles. It was decided to hold the next session in Madrid, Spain, in 1930.

This convention was in some respects one of the most successful in the history of the Association. Many of the reports and discussions were interesting and valuable. Some of the reports were too long, and consisted too largely of descriptions of railway practice with which most railway officers who were especially interested in their subjects already were familiar. On the other hand, nobody interested in the subjects could read them without getting a large amount of information well worth having regarding the different practices and the results gained by them in different countries.

American Delegation Comparatively Small

Almost every department and branch of railway service in America was represented by railway officers who were here. Numerically, however, it must be said that the railways of the United States and Canada were very poorly represented. The United States has about one-third of the mileage of the world, but there were present at the convention only about two dozen officers of United States railways. These included only one president and three vice-presidents. The total registration included about 750 delegates, and a large part of the countries sent many of the principal officers of their railways. The sit-

uation was in rather striking contrast to that at the meeting of the International Chamber of Commerce which was held at about the same time at Brussels, and which was largely attended by American business men who took an important part in its proceedings. The difference undoubtedly was due mainly to the fact that American railway men are not much interested in foreign railway practice.

Undoubtedly, however, if they knew more about it they would be more interested in it. There is a disposition in the United States to believe that European trains are slow. Railway officers who travel in France and England soon are disillusioned on this point. The Great Western Railway took two parties of delegates in special trains from London to its great shops at Swindon. The trip of 77 miles from Paddington Station was made on the afternoon of June 29 in exactly 70 minutes. This was an unusual performance, but train speeds in England and France average remarkably high.

An American railway mechanical expert, after visiting the main shops of two great English railways, remarked, "I have seen things here which have convinced me that English railways know just as much about mass production in shops as we do." American railway officers who have been studying passenger service here have been impressed with the large numbers of passengers per car and per train that are handled in compartment cars with unusual comfort.

There were delegates registered from 29 countries, the number from each country being as follows:

Argentine Republic	20
Belgium	48
Brazil	11
Chili	9

* A report of the opening of the Congress and the early sessions was published in the *Railway Age* of July 11, 1925, page 81.

China	15
Costa Rica	1
Czecho Slovakia	3
Denmark	14
Egypt	2
Finland	3
France and Colonies	121
Great Britain, India, Dominions, Protectorates and Colonies	260
Greece	4
Holland	12
Italy	42
Japan	11
Luxemburg	1
Mexico	2
Norway	4
Poland	8
Portugal	20
Rumania	7
Serbia	2
Siam	2
Spain	31
Sweden	32
Switzerland	16
United States	38
Uruguay	6

Special Entertainment Features

One of the extraordinary entertainment features of the Congress was a "musical smoker" given by the London & North Eastern. The choir consisted of 300, and the orchestra of 100, men and women, all of whom were employees of the railway except the directors and two soloists. They gave an evening's entertainment which would

and to the United States in 1940. It was last held in the United States in 1905.

There was considerable sentiment in this Congress, especially among the British delegates, in favor of going to the United States in 1930, but the delegates of both the United States government and the American Railway Association had instructions which prevented them from extending an official invitation.

At the General Meeting at the conclusion of the Congress the question of inviting, or at least admitting, the railways of Russia and Germany to the Association was brought up. It was voted by an overwhelming majority that the situation in Russia is such that the railways of that country should not be admitted. By an equally large majority it was voted that if the railways of Germany applied for admission they should be given favorable consideration by the Permanent Commission. The question was then raised as to the attitude to be taken toward the railways of other former enemy countries, such as Austria, Hungary and Turkey, and the sense of the meeting was that the same attitude should be taken toward them as toward the railways of Germany.

American Delegation Entertains

On July 1 an informal luncheon to the American delegates and a number of British railway officers who had been active in promoting the success of the Congress, was given by Col. E. A. Simmons chairman of the United States government delegation, at the Royal Automobile



Delegates to Congress

have done credit to an organization of professional musicians.

The British railways continued throughout the convention to give the delegates entertainment features of various kinds which were planned and carried out in the most satisfactory way. These included railway and automobile trips to Windsor Castle, Canterbury and other points of interest; and special trains were run and all other accommodations arranged for the delegates who attended the celebration of the centenary of the opening of the Stockton & Darlington. On behalf of the British government a reception to the visitors was given at Lancaster House the evening of June 30 by the Minister of Transport, Col. Wilfrid Ashley and Mrs. Ashley.

It apparently being already settled that the Congress would go to Spain in 1930, no effort was made to get it held in the United States in that year. There has been some talk to the effect that it will go to Brussels in 1935

Club. The guests of honor were the American Ambassador to Great Britain, A. B. Houghton, and the British Minister of Transport, Col. Wilfrid Ashley. Col. Simmons concluded a brief address of appreciation of the way the British railways had provided for the Congress by proposing the toast to the King, and Lord Churchill, Chairman of the Great Western Railway, and President of the Congress, proposed the toast to the President of the United States. The Duke of York sent a letter expressing regret that he could not be present owing to the fact that he had to be in Darlington to open the Railway Centenary Celebrations.

Among those at the luncheon were: Viscount Churchill, chairman, Great Western Rly.; Sir Evelyn Cecil, director Southern Rly.; Lord Aberconway, chairman Metropolitan Rly.; Gustav Behrens, director, London, Midland & Scottish Rly.; R. H. Selbie, general manager, Metropolitan Rly.; Sir Henry Fowler, Committee of Organiza-

tion, Institution of Mechanical Engineers; A. B. Cane, Local Committee of Organization, Institution of Mechanical Engineers; H. Marriott, Local Committee of Organization, Institution of Mechanical Engineers; R. W. Bell, Illinois Central; H. M. Carson, Pennsylvania; W. C. Cushing, Pennsylvania; David F. Crawford, U. S. Government; S. O. Dunn, American Railway Association; H. J. Forster, American Railway Association; W. E. Grimshaw, Lehigh Valley; G. A. Harwood, New York Central; C. H. Howard, Missouri Pacific; A. L. Humphrey, U. S. Government; Edward Hungerford, "Saturday Evening Post," Thomas C. McBride, U. S. Government; Charles H. Muchnic, U. S. Government; H. E. Newcomet, Pennsylvania; F. A. Preston, P. & M. Co.; G. J. Ray, Delaware, Lackawanna & Western; J. W. Roberts, Pennsylvania; Colin Ross, *Railway Age*; Bird M. Robinson, U. S. Government; Donald Rose, Central of Georgia; Walter F. Schleiter, U. S. Government; Dr. H. von Schrenk, Kansas City Southern, New York Central, New York, Chicago & St. Louis; L. B. Sherman, American Railway Association; Harold A. Smith, U. S. Government; C. F. Smith, New York Central; S. T. Wagner, Reading; J. T. Wallis, Pennsylvania; Col. L. W. Winby, P. & M. Co., and S. Withington, New York, New Haven & Hartford.

Suburban Services

Two reports were made on "Suburban Services," one by E. C. Cox and R. Cooper for America and the British

train of these cars 650 feet long and weighing less than 300 tons. These vehicles are unpopular with the passengers on account of the limited height of each story, and the process of loading and unloading passengers at stations is said to be slow;

b) Increasing the length of trains. This is limited in many cases by the platform accommodation and the tractive power available. Moreover, it is found that when the exits at the central terminal are at one end of the platforms, a tendency is noticeable for passengers to crowd towards that end of the train;

c) Reducing the floor space per passenger, by decreasing the size of the seats and the space between rows of seats; and by reducing the number of seats, thereby freeing space in which passengers can stand. The suburban system of the French State Railways has now been compelled to undertake to provide seats for all passengers except those travelling within a radius of three miles round Paris. With regard to the general design of suburban carriages, two distinct types of vehicle are found.

1. Saloon or open cars;

2. Cars divided into a number of compartments.

The former contains a passageway through the middle or on one or both sides of the car, and entrance is gained by two or more doors of suitable width placed at convenient intervals along each side. The latter type is provided with a smaller door on each side of each compartment.

New electric vehicles for services round Paris are fitted



at Windsor Castle, June 27

Empire, and one by M. Direz, assistant traffic manager of the French State Railways, for other countries. The reports were summarized, in part, as follows:

"The carrying capacity of a railway depends upon the number of trains which can be handled on the running tracks and at the terminals, and the number of passengers that can be accommodated per train.

The methods adopted to increase the train accommodation include the following:

a) The use of two-storied vehicles, with or without roofing. Such vehicles can be employed only in exceptional cases where sufficient top clearance is available. This type of vehicle appears to be in vogue only on the French State and Eastern Railways in Paris. The former railway no longer builds this class of coach, but the latter has recently put in hand the construction of a large number provided with roofs covering the upper deck. It is stated that more than 1,400 passengers can be carried in a

with large sliding doors and a central passage. These doors are closed automatically by one of the train staff, who, by operating a plunger, controls the six doors on one side of the two vehicles which form a section.

The conversion of former steam traction cars to electric motor vehicles has been and is being done to a considerable extent in England by the Southern Railway.

Economy can be effected in working the traffic during the peak hours where the service is frequent, by arranging for trains to call only at alternate stations, or some similar regular sequence.

Suburban travel is characterized by the low rate charged per mile for ordinary fares, the average being much less than that for main line long distance journeys.

In France the workmen's fares per kilometer are only about one-tenth of the ordinary main line third-class fares, no increase in the former having been permitted. The suburban fares were originally fixed at a low rate to en-

courage traffic, which traffic has grown from a profit to a burden, owing to the special facilities required to handle it.

In and around London the workmen's fares are generally less than one-half the ordinary suburban fares, and one-third the ordinary main line fares. Weekly workmen's tickets, as well as daily tickets, are issued by some of the English companies.

Season or commutation tickets are in use on most railways. Great diversity exists with regard to the rates charged for such tickets, these varying in England between about 30 per cent and 70 per cent of the rates per mile for ordinary suburban tickets.

Workmen's tickets are not issued in America, India or South Africa.

Both reports refer to the many advantages to be obtained by using electric power for the operation of suburban services. The multiple unit system for electric trains eliminates terminal shunting, and enables the length of trains to be more easily adapted to the traffic needs.

Increased attention is being given to the adequate indication to the public of the stations served by each train, this indication being given both at stations and, where possible, on the exterior of the train.

Dispatching Systems

"Dispatching System" was the subject of three reports, one by J. H. Follows for the British Empire, one by F. P. Paternall for America, and one by E. Epinay for other countries.

In the discussion Mr. Jorissen (Netherlands State Railways) said that other systems of control than those applying in England exist in France, Belgium and America. In Germany and Switzerland control is carried out for the most part in the stations. The speaker was tempted to believe that the presence of a dispatcher was inclined to suppress all initiative on the parts of stationmasters of large stations. He thought that on the Continent the establishment of the dispatching system was chiefly the result of special circumstances which had arisen during the war, when a particularly dense traffic had to be dealt with, and of circumstances after the war when a staff had to be used which had not always the desired capability.

Mr. Lamalle said that if the dispatching system had not been introduced into Belgium it would at the present time have been impossible to deal satisfactorily with traffic. The dispatching system in Belgium was not a product of the war; before the war the German system had been studied, but the difference between the measures taken in France and the German system was such that a solution was arrived at without discussion. The German dispatcher draws up no diagram of the actual running of trains; in Mr. Lamalle's opinion, this diagram is essential.

The dispatcher is obliged to go out several times a month on the line in order to put himself into touch with the various stationmasters. When a dispatcher has carried out his duties for a certain time he is sent back into a large station and another stationmaster is called upon to take over the duties of dispatcher; by this means collaboration between these various officials is increased to a considerable extent.

Mr. Payet protested against one passage in Mr. Jorissen's paper; the French railways were perfectly able to deal with the traffic carried by the services of the American Army; they even dealt with a very much heavier traffic. The French and Belgian administrations, which were at the outset very skeptical on the subject of the advantages of the dispatching system, were quickly convinced.

Mr. Maisson drew special attention to the difference between the systems adopted in France and Belgium and that which is in force in Germany. The only object of the latter was to secure the safety of movement within the station itself, whereas the French and Belgian systems regulate movement from station to station and tend to avoid delays due to incidents en route.

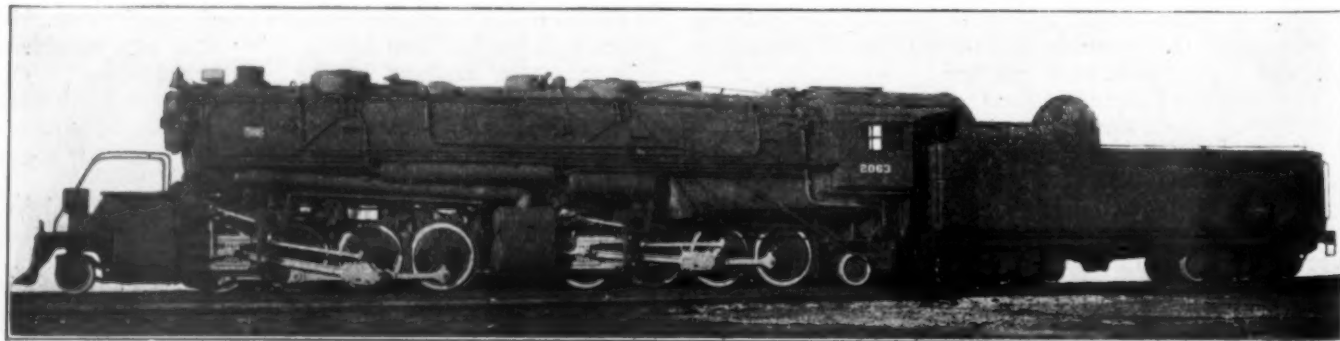
Mr. Jorissen called attention to the difference which exists between the dispatching systems of the American railroads on the one hand and that in existence in France and Belgium on the other, and also to that which is in force on the English railways. In America everything is regulated by the dispatcher and the signalmen without any interference on the part of stationmasters.

On several Continental railways a mixed system is in force, by which the regulation and the running of trains is more or less in the hands of a dispatcher, in which the intervention of stationmasters has not been completely eliminated. Finally, there is a third system where there is no centralization, and everything is regulated by the stationmaster.

Mr. Nobili (Italian State Railways) stated that after a visit he had made to Belgium and France the Italian Railways decided to apply the systems which are in force in these countries, and that they had every confidence in the success of this step. He said that there were in Italy single lines with very heavy traffic, and they considered that the establishment of the dispatching system would permit of the construction of double roads being dispensed with.

Mr. Bayley (Sudan Government Railways) stated that the installation of a system of divisional control has permitted an increase of 20 per cent in the net load of trains.

Mr. Epinay pointed out that the advantage of the dispatching system consists in being able to substitute special running, adapted to the needs of the moment, for conditional running timed in advance.



2-8-8-2 Mallet Locomotive for the Norfolk & Western

The St. Paul Plan of Rate Relief

*Potter plan proposed by receivers has precedent
in Supreme Court decisions*

By J. Shirley Eaton

IN its issue of June 27, the *Railway Age*, (p. 1663) reported a plan of rate relief proposed by the receivers of the Chicago, Milwaukee St. Paul, and in the issue of July 4, (p. 57) appeared an excerpt from a brochure by Mark W. Potter, setting forth in full the advantages claimed for the plan.

The Potter plan, in brief, calls for an increase of 5 per cent in the rates in the western district in place of the 10 or 11 per cent increase asked by the western carriers and its calls further for the segregation and pooling of the proceeds of the increase throughout the district and the distribution of these proceeds among the carriers in proportion to their showing of deficit below the fair return.

The table was issued by the receivers in connection with their announcement of the plan to show how the application of the so-called Potter plan would severally affect the 64 carriers in the western district. Mark W. Potter, now one of the receivers of the St. Paul, was formerly Interstate Commerce Commissioner. In this position he contributed largely to the early elucidation of the Transportation Act of 1920. One of the more serious problems dealt with by the commissioner during his service was that of the revision of divisions of through rates.

Effect of Plan

In column 5 of the table is shown the return upon the property of each of these 64 carriers in 1924. All the carriers taken together realized 3.91 per cent on their investment. The return for the northwestern carriers as a whole, however, was but 3.18 per cent as against 4.26 per cent for those in the central western and southwestern regions. This yield of 4.26 per cent was one-third higher than the yield in the Northwest.

Or by a different analysis of the first 28 carriers, beginning with those of lowest return, representing 19 per cent of total investment, not one reached a figure of one-half the declared reasonable return on investment. Their average was 1.97 per cent.

If a 5 per cent increase were made and apportioned as proposed, every road except the 11 of highest return would benefit. The great Southern Pacific property would be raised from 4.10 to 4.85, the Union Pacific from 4.58 to 5.11, the Atchison from 5.25 to 5.48. At the other end of the scale, the 28 lowest roads, 7 of which now show deficits, would range roughly from 1 per cent to 4 per cent, showing an average of 3.56 per cent as a whole.

The receivers of the St. Paul believe that a rate increase for the western carriers of five per cent, the proceeds of which are to be pooled among the roads in the group on the basis of their need, presents the practicable solution for the difficulties of the northwestern roads. It leaves no road with an absolute deficit: it gives adequate relief to nearly all that need it and it does not tax the shipper to swell the profits of carriers already prosperous. As practical men they apparently do not believe a larger increase in the rates could possibly be secured, and besides such larger increase is not necessary. A general restoration of credit among all the carriers would re-

dound far more to the prosperity of the Northwest than would the further enhancement of credit for those carriers whose profits are already adequate.

Matter of Revision of Divisions Reopened

With this proposal of the St. Paul receivers, the whole matter of revision of divisions is opened anew, involving as it does careful consideration of some of the very fundamental principles incorporated in the Transportation Act of 1920. Those principles have previously been discussed in the *Railway Age* by the present writer. The decision of the Supreme Court in the New England divisions case was reported in the *Railway Age* of February 24, 1923, (p. 480). Contributions by the writer prior to the above Supreme Court decision appeared in the issues of January 13, 1923, (p. 181) and January 20, 1923, (p. 235); and later appeared his letter after the decision, in the issue of April 7, 1923 (p. 900).

Northwestern Situation Critical

The whole northwestern railway situation is coming to be regarded as critical. Great properties such as the Chicago & North Western, the Great Northern, the Northern Pacific and even the Chicago, Burlington & Quincy are watching with concern certain tendencies. Such a marginal property as the Minneapolis & St. Louis has been in receivership since July, 1923. The Chicago & Alton has been operated by receivers since August, 1922. These receiverships may have been explicable, but now a great system, long established in the public confidence as a tower of strength, has fallen and lies prostrate—the St. Paul. Its capital is nearly three quarters of a billion. Over its 11,000 miles, it serves 12 states of an aggregate population upwards of 30,000,000. Its \$700,000,000 odd of securities are the largest aggregate of railway capital ever committed to a single receivership. Since 1911 it has invested in the development of its property approximately \$400,000,000 on which it has earned at the rate of less than one per cent. Its preferred stock in 1909 sold as high as 181; today it is about 16. The common stock in 1909 reached 165; today it can be bought around 9. The disaster which these plain figures tell is appalling. And for the general public the consequences of such a huge collapse may not be removed and academic merely; they already press hard on financial conditions throughout the Northwest and they may next affect unfavorably the prosperity of the entire country.

Interstate Commerce Commission Responsibility

Because this is the first great receivership since the Transportation Act of 1920, it has added significance. It puts to test a railway policy on which the stability of a total railway capital of twenty odd billion depends. By this act railways passed from the shadows of impending government ownership to the definite status of private ownership under public regulation, called by Commissioner Potter when on the Interstate Commerce Commission, "private ownership in the public interest"—a status more congenial to American tradition. Until the Act of 1920 governmental regulation according

Table Showing How Application of Potter Plan Would Affect Individual Roads in Western District

Road (1)	Region (2)	Investment**		Earnings, actual		Freight revenue account 101		Earnings with 5 per cent increase in freight rates		Net income to road, 5.75 per cent of Col. 3	Per cent deficit to total, Col. 7	Per cent of road's deficit to total, Col. 7	Redistribution of recaptured freight revenue is distributed	Per cent return 14 + 3 (15)
		Net income	Per cent return 4 + 3 (5)	Net income	Per cent return 4 + 3 (5)	Actual	5 per cent of Col. 6	Net income	Per cent return 4 + 3 (5)					
Chicago, Peoria & St. Louis.....	C.W.	\$8,405,640	2.94*	\$248,849*	2.94*	\$1,036,629	\$1,831	\$197,018*	2.34*	\$483,324	40	40	\$328,948	95
Quincy, Omaha & Kansas City.....	C.W.	6,499,366	2.50*	168,246*	2.50*	1,702,609	350	131,116*	2.05*	373,724	30	30	246,711	1.21
Louisiana Ry. & Nav. Co. of Texas.....	C.W.	3,157,808	1.57*	49,710*	1.57*	1,103,787	55,189	131,116*	2.05*	373,724	1.13	1.13	106,908	1.81
Minneapolis & St. Louis.....	C.W.	66,715,557	1.44*	959,951*	1.44*	12,834,316	631,716	318,235*	1.48*	3,830,143	2.64	2.64	1,211,102	1.82
Louisiana Ry. & Nav. Co. of Texas.....	C.W.	23,027,531	1.11*	353,291*	1.11*	3,653,900	182,645	12,646*	1.32*	1,324,983	3.86	3.86	707,237	1.96
Trinity & Brazos Valley.....	C.W.	11,855,954	.96*	171,758*	.96*	2,341,180	117,645	12,646*	1.32*	1,324,983	4.3	4.3	353,618	2.12
Toledo, Peoria & Western.....	C.W.	10,009,415	.75*	171,740*	.75*	1,332,139	66,907	81,523*	.86*	573,541	3.6	3.6	296,052	2.24
Kansas City, Mexico & Orient.....	C.W.	22,575,883	.75*	261,511*	.75*	2,654,435	108,707	81,523*	.86*	573,541	2.5	2.5	274,312	2.71
Fort Worth & Rio Grande.....	C.W.	8,086,181	.75*	131,843*	.75*	1,091,665	54,733	132,024*	.84*	1,076,389	3.8	3.8	600,329	2.72
Kansas, Oklahoma & Gulf.....	C.W.	18,719,811	.75*	31,951*	.75*	2,730,494	136,563	132,024*	.84*	1,076,389	3.8	3.8	495,358	2.76
Denver & Salt Lake.....	C.W.	31,764,578	.66*	272,874*	.66*	5,283,994	264,295	337,169*	1.01	1,826,463	3.5	3.5	452,302	3.09
Duluth, South Shore & Atlantic.....	C.W.	19,083,358	.66*	272,874*	.66*	4,835,378	211,919	337,169*	1.01	1,826,463	3.5	3.5	452,302	3.09
Duluth, Winnipeg & Pacific.....	C.W.	17,339,079	.66*	272,874*	.66*	4,835,378	211,919	337,169*	1.01	1,826,463	3.5	3.5	452,302	3.09
Chicago Great Western.....	C.W.	17,695,172	.66*	272,874*	.66*	4,835,378	211,919	337,169*	1.01	1,826,463	3.5	3.5	452,302	3.09
St. Louis & Southwestern of Texas.....	C.W.	38,839,473	.66*	272,874*	.66*	4,835,378	211,919	337,169*	1.01	1,826,463	3.5	3.5	452,302	3.09
Missouri & North Arkansas.....	C.W.	20,415,555	.66*	272,874*	.66*	4,835,378	211,919	337,169*	1.01	1,826,463	3.5	3.5	452,302	3.09
Spekman International.....	C.W.	3,878,552	.66*	62,733*	.66*	1,234,655	61,733	124,466*	3.21	223,017	4.87	4.87	4,004,335	3.36
Green Bay & Western.....	C.W.	6,086,286	.66*	100,528*	.66*	1,338,437	41,922	124,466*	3.21	223,017	4.87	4.87	4,004,335	3.36
North Western Pacific.....	C.W.	69,229,153	.66*	128,373*	.66*	1,260,305	63,015	124,466*	3.21	223,017	4.87	4.87	4,004,335	3.36
Bingham & Garfield.....	C.W.	7,253,624	.66*	134,776*	.66*	4,064,356	203,228	148,670*	2.15	3,983,551	1.49	1.49	1,225,329	3.62
Colorado & Southern.....	C.W.	8,595,605	.66*	140,761*	.66*	4,788,305	239,925	158,701*	2.19	4,170,833	1.6	1.6	266,355	3.67
San Antonio, Mex. & Gulf.....	C.W.	5,869,592	.66*	140,761*	.66*	4,788,305	239,925	158,701*	2.19	4,170,833	1.6	1.6	266,355	3.67
Chicago, Milwaukee & St. Paul.....	C.W.	73,434,534	.66*	167,719*	.66*	1,414,999	72,000	197,961*	2.38	5,036,747	1.80	1.80	3,239,544	3.70
Western Pacific.....	C.W.	109,325,361	.66*	252,843*	.66*	2,420,900	121,045	289,763*	4.13	40,032	1.13	1.13	106,908	3.33
San Antonio & Arkansas Pass.....	C.W.	26,350,149	.66*	752,237*	.66*	10,974,252	548,713	3,522,340*	3.22	6,286,208	1.83	1.83	1,504,935	4.10
Kansas City Southern.....	C.W.	104,180,478	.66*	3,021,319*	.66*	16,443,792	824,190	10,564,430*	4.01	1,515,134	1.42	1.42	345,395	4.17
Chicago & Alton.....	C.W.	151,121,542	.66*	4,394,793*	.66*	21,675,681	1,083,784	17,843,509*	3.59	5,990,377	1.64	1.64	1,348,685	4.19
St. Paul, Portland & Seattle.....	C.W.	217,245,544	.66*	6,776,158*	.66*	37,349,105	1,867,455	24,820,939*	3.75	12,491,619	3.15	3.15	2,590,461	4.31
Chicago & North Western.....	C.W.	499,666,026	.66*	16,784,051*	.66*	103,516,773	5,175,838	21,959,889*	4.39	28,730,796	6.58	6.58	5,411,185	4.44
Utah Railway.....	C.W.	9,042,081	.66*	310,172*	.66*	1,577,673	78,883	389,059*	4.30	519,920	1.2	1.2	408,856	4.52
Port Southern & Western.....	C.W.	7,132,131	.66*	252,843*	.66*	74,422,540	3,671,127	23,532,204*	4.64	410,098	7.23	7.23	5,945,724	4.50
Chicago, St. Paul Mpls. & Omaha.....	C.W.	85,759,324	.66*	3,408,989*	.66*	20,019,002	1,000,950	4,409,939*	4.91	5,161,161	1.57	1.57	326,856	4.58
Missouri Pacific.....	C.W.	413,593,829	.66*	15,817,384*	.66*	95,949,391	4,797,470	20,615,054*	4.98	23,781,645	4.39	4.39	3,610,198	4.69
Chicago, Rock Island & Pacific.....	C.W.	400,978,897	.66*	16,191,390*	.66*	89,921,497	4,496,075	20,687,465*	5.16	23,781,645	4.39	4.39	3,610,198	4.69
Southern Pacific System.....	C.W.	1,210,978,164	.66*	49,579,192*	.66*	190,840,578	9,542,029	59,121,221*	4.89	69,575,412	11.02	11.02	9,062,501	4.85
Texas & Pacific.....	C.W.	137,279,548	.66*	5,801,611*	.66*	23,930,347	1,196,517	6,998,128*	5.10	7,893,574	1.15	1.15	945,724	4.92
Mo.-Kans.-Tex. (Incl. W. F. & N. W.).....	C.W.	206,035,505	.66*	8,912,952*	.66*	26,468,310	1,323,416	10,236,368*	4.97	11,847,042	1.62	1.62	1,332,237	4.97
Louisiana & Arkansas.....	C.W.	573,508,390	.66*	19,861,077*	.66*	3,524,606	176,230	778,703*	5.62	796,589	1.1	1.1	90,461	5.00
Vicksburg, Shreveport & Pacific.....	C.W.	10,521,234	.66*	480,047*	.66*	2,934,687	146,734	626,781*	5.96	604,971	.07	.07	57,566	5.11
Union Pacific System.....	C.W.	834,007,437	.66*	38,204,568*	.66*	151,107,725	7,555,386	45,759,954*	5.49	47,955,428	5.36	5.36	4,407,895	5.11
Great Northern.....	C.W.	520,921,977	.66*	24,201,287*	.66*	86,144,671	4,307,234	28,508,521*	5.47	29,953,014	5.37	5.37	4,606,908	5.15
Chicago, Burlington & Quincy.....	C.W.	588,734,264	.66*	28,742,112*	.66*	119,773,873	5,988,694	34,740,806*	5.90	33,852,220	2.82	2.82	3,191,080	5.28
Lake Superior & Ishpeming.....	C.W.	4,965,823	.66*	251,166*	.66*	1,552,327	77,616	328,782*	6.62	285,535	.02	.02	267,614	5.39
Missouri-Kansas-Texas of Texas.....	C.W.	72,424,196	.66*	3,674,546*	.66*	15,863,394	793,170	4,467,716*	6.03	4,703,093	3.0	3.0	3,896,585	5.38
St. Louis-Southwestern.....	C.W.	81,792,927	.66*	4,160,359*	.66*	15,467,940	773,397	4,933,756*	6.17	4,703,093	3.0	3.0	3,896,585	5.38
St. Louis-San Francisco.....	C.W.	402,629,916	.66*	20,589,138*	.66*	62,048,936	3,102,420	23,691,558*	5.89	21,512,220	1.40	1.40	1,151,316	5.40
Atchafalaya, Topeka & Santa Fe Sys.&.....	C.W.	900,237,189	.66*	48,231,979*	.66*	168,011,036	8,405,052	55,688,331*	6.18	51,763,638	2.47	2.47	4,314,530	5.48
Midland Valley.....	C.W.	21,067,534	.66*	1,150,881*	.66*	3,735,444	186,772	1,317,653*	6.35	1,211,383	.03	.03	1,175,552	5.58
International & Great Northern.....	C.W.	44,581,590	.66*	2,683,511*	.66*	12,673,345	633,667	3,317,178*	7.44	2,563,441	6.02	6.02	2,683,511	5.62
St. Louis-San Francisco & Texas.....	C.W.	3,621,310	.66*	221,809*	.66*	1,777,371	88,868	310,677*	8.58	208,225	6.13	6.13	221,809	6.13
New Orleans, Texas & Mexico.....	C.W.	19,225,871	.66*	1,368,349*	.66*	2,837,859	141,893	310,677*	8.58	208,225	6.13	6.13	221,809	6.13
Duluth, Missabe & Northern.....	C.W.	48,925,581	.66*	3,822,157*	.66*	12,767,320	638,366	4,460,523*	9.12	2,813,321	7.84	7.84	3,822,157	7.84
Chicago, Rock Island & Gulf.....	C.W.	19,419,037	.66*	1,522,199*	.66*	5,264,234	263,122	1,785,411*	9.19	1,116,595	7.94	7.94	1,522,199	7.94
Wichita Valley.....	C.W.	6,192,402	.66*	599,635*	.66*	1,482,322	74,132	673,767*	10.88	356,063	13.04	13.04	599,635	9.68
Nevada Northern.....	C.W.	3,346,151	.66*	391,561*	.66*	897,989	44,899	436,460*	13.04	192,404	11.70	11.70	391,561	11.70
Fort Worth & Denver City.....	C.W.	31,379,313	.66*	3,724,150*	.66*	8,250,366	414,018	1,318,168*	13.19	1,804,316	11.87	11.87	3,724,150	11.87
Peamount, Sour Lake & Western.....	C.W.	3,379,409	.66*	410,144*	.66*	2,272,236	113,612	523,756*	15.50	194,316	12.14	12.14	410,144	12.14
St. Louis, Brownsville & Mexico.....	C.W.	17,041,732	.66*	2,177,108*	.66*	5,840,351	292,018	2,469,126*	14.49	979,900	12.78	12.78	2,177,108	12.78
Texarkana & Fort Smith.....	C.W.	4,923,451	.66*	843,057*	.66*	1,241,195	62,756	967,252*	19.65	283,098	100.00	100.00	843,057	17.12
Total Western District.....		\$9,509,258,175		\$371,490,765		\$1,644,737,118	\$82,236,856	\$453,727,621	4.77	\$546,782,345			\$82,236,856	4.77

RECAPITULATION BY GROUPS

Northwestern Region.....	\$3,103,522,017	\$98,621,677	3.18	\$506,095,316	\$123,926,443	3.99	\$178,452,516	\$79,830,839	44.56	\$36,644,743			\$135,266,420	4.36
Central Western Region.....	4,666,890,402	198,838,760	4.26	813,799,425	239,528,731	5.13	268,448,971	69,507,438	39.70	32,648,032			231,486,792	4.06
Southwestern Region.....	1,738,845,756	74,030,328	4.26	324,842,377	90,272,447	5.19	99,983,631	25,953,303	15.74	12,944,081			86,874,409	5.00

NOT IN FULL SENSE COMMON CARRIERS

RECAPITULATION BY GROUPS EXCLUDING ORE ROADS (D. & I. R., L. S. & I., D. M. & N. AND N. N.) NOT IN FULL SENSE COMMON CARRIERS

Northwestern Region	\$3,017,866,035	\$94,275,480	3.12	\$486,489,765	\$24,324,489	\$118,599,969	3.93	\$173,527,297	\$79,251,817	44.07	\$35,789,723	\$130,065,203	4.31
Central Western Region	4,663,544,251	198,447,199	4.25	812,901,436	40,645,072	239,092,271	5.12	268,153,794	69,706,595	40.05	32,525,038	230,972,237	4.95
Southwestern Region	1,738,845,756	74,030,328	4.26	324,842,377	16,242,119	90,272,447	5.19	99,983,631	25,953,303	15.88	12,896,319	86,926,647	5.00
Total Western District	\$9,420,256,042	\$366,753,007	3.89	\$1,624,233,578	\$81,211,580	\$447,964,687	4.76	\$541,664,722	\$174,911,715	100.00	\$81,211,080	\$447,964,087	4.76

*Deficit. **Investment in Road & Equipment and Material & Supplies as of December 31, 1923. ***Excess earned. †Southern Pacific System includes Arizona Eastern, El Paso & Southern, Galveston & San Antonio, Houston & Texas Eastern, Texas & New Orleans, Louisiana Western, Morgan's Louisiana & Texas R. R. & S. Co. and Southern Pacific Company. ‡Union Pacific System includes Oregon, Washington R. R. & Nav. Co., Los Angeles & Salt Lake, Oregon Short Line, St. Joseph & Grand Island Ry. and Union Pacific R.R. §Atchison, Topeka & Santa Fe System includes Gulf, Colorado & Santa Fe, Panhandle & Santa Fe and Atchison, Topeka & Santa Fe R. R.

to Justice Brandeis "has been directed mainly to the prevention of abuses; particularly, those arising from excessive or discriminatory rates." And there was only indifferent care to the problems of the railroads themselves. In the stresses of the war arose the conception of a national transportation system vital as a whole to the nation. In this spirit by the Act of 1920, Congress for the first time undertook a definitely constructive policy towards railways. Chief Justice Taft in his Dayton-Goose Creek opinion characterizes this policy as "affirmative control." Endowed with powers as never before, the Interstate Commerce Commission is now directly charged with the grave responsibility, within limits, of conserving and fostering as well as regulating the railways.

The serious consequences of the collapse of the St. Paul cannot easily be overstated. For a catastrophe of this magnitude no usual explanation suffices. There will be rumors and investigations and perhaps some findings, but in the main it is believed the road has been capably managed. Its total capitalization at the end of the last fiscal year was \$64,000,000 less than the federal valuation at reproduction new. The explanation, therefore, apparently is not overcapitalization; nor does an examination of operation indicate operating inefficiency. Perhaps there has been overexpansion, but there have also been low rates for all the northwestern railways including the St. Paul, and the result is already seriously reflected not only in the earnings of the St. Paul but also in the earnings of these competing carriers in the Northwest. Since the rate control is lodged with the Interstate Commerce Commission its responsibility is obvious.

Two forms of relief are open to the northwestern railways. The usual form would be a general rate increase whose benefits would fall in equal measure to the strong and to the weak. But a region whose industry has been depressed for a series of years must have any added burden by way of freight rate increase restricted to the lowest possible minimum.

11 Per Cent vs. 5 Per Cent

Under the plan of a flat increase in the western territory of 11 per cent as proposed by the western roads, many of the roads in greatest need would fare indifferently while a large part of the proceeds would be appropriated by the treasuries of the opulent roads. Such a plan would be inefficient use of shippers' funds and might be justly unpopular.

The proposition of the St. Paul receivers would reduce the amount of relief sought from 11 per cent to 5 per cent, by pooling for distribution the proceeds among the roads according to their needs as indicated from their respective deficits from the established rate of return. Under this plan every one of the northwestern railways would be lifted out of the absolute deficit class and the credit of all of them would be very greatly enhanced. An appeal for relief such as this would commend itself as reasonable to farmer and business man alike, not alone because the amount of the increase is modest but because relatively little of it would go to treasuries already well filled. Most of it would be applied where directly needed to keep the transportation machinery in efficient operation. As is well known, the sources of added railway revenue have been heavily drawn upon, so that it behooves all interests to act with greatest caution. To divert emergency funds (under cover of saving the marginal carriers in grave crisis) to the treasuries of roads which have no present need of relief would be to trifle with a very serious situation.

The principle which the receivers of the St. Paul would invoke was first used in the New England divisions case of 1922. It doubtless saved from bankruptcy the New England lines and saved from embarrassment the great industrial section which they served. Since the relief came out of an increase in the existing rates, nothing was taken from the prosperous roads which they theretofore had. They too benefited by the increase, only not in the same degree. The New Haven by this succor was tided over and is already showing good powers of recuperation.

Method of Relief Feasible

The method of relief proposed by the St. Paul receivers is entirely feasible. The adaptability of the Transportation Act of 1920, to railway needs is not fully appreciated. The law, in effect, took over the control of a railway's earnings and prescribed how they should be applied, so that Justice Brandeis in the New England case was led to say in the opinion which he delivered for the court—"Whether the rate is reasonable may depend largely upon the disposition which is to be made of the revenues derived therefrom."

The conception of earnings as a collection of monies for purposes designated by the Interstate Commerce Commission within the intent of the law has displaced the conception of absolute ownership by the individual carrier of such collections for account of revenue. The equities set up explicitly by the law after that of the railway for a reasonable return upon its property are those of the government's recapture fund, and of the carrier's prescribed financial reserve fund to which latter share of excess earnings the owner's equity succeeds when the reserve has been maintained at the limit set by the law.

A Matter of Equities

In addition to these equities explicitly stated in the law, equities in the collection under the authorized rate, there is another equity implicit in the intent and provisions of the law, which has been traced out and expounded by the Supreme Court in the New England divisions and the Dayton-Goose Creek Railway cases. It is the equity of the weak carrier in a group of carriers and it lies directly against the collections for joint revenue account under the authorized rate. Thus, it is prior to expenses of the carrier collecting the revenue, and prior to all successive deductions from this revenue, including the deductions for the recapture fund of the government and the financial reserve fund which lie against net earnings.

Of course, each carrier's proportion of the proceeds of an authorized rate must exceed its cost, but the revenue

collected is in effect collected in trust for accounts under the authorized rate, in which rate lie equities of other carriers as well. If this is so the collecting carrier may not logically hold out of the "revenue" collected, its costs at its own statement and render its accounting on its own constructive net figure. Its remedy should be by reclaim for unsatisfied expenses, logically taking the same channel of acknowledgment and authorization as the representation leading to the original division of which the claimant is in effect a correction. It is this very real equity which it is within the power of the Interstate Commerce Commission to make available out of any rate increases they see fit to authorize.

Precedent in Supreme Court Decisions

In the New England divisions case the Supreme Court recognized the public's stake in the continuous effective operation of the railways, which it has become the responsibility of the Interstate Commerce Commission to assure—pointing out that whereas the law theretofore was directed to the prevention of abuses, the essential added contribution of the Transportation Act was in the provisions "to ensure adequate transportation service." The opinion proceeded, "To this end. . . . Upon the commission new powers were conferred and new duties imposed." In the Dayton-Goose Creek case, Chief Justice Taft writing the opinion for the Supreme Court declares: "The new act (Transportation Act of 1920) seeks affirmatively to build up a system of railways prepared to handle promptly all the interstate commerce of the country. It aims to give the owners of the railways the opportunity to earn enough to maintain their properties and equipment in such a state of efficiency that they can carry well this burden."

Having acknowledged the responsibility of the public towards railways, they are no longer considered primarily as separate properties but as a national system subdivided into defined groups. In the language of Chief Justice Taft in the Dayton-Goose Creek case ". . . the individual shipper . . . with every other shipper similarly situated in the same section is vitally interested in having a system which can do all the business offered. . . . He may, therefore, properly be required in the rates he pays to share with all other shippers of the same section the burden of maintaining an adequate railway capacity to do their business."

Railways Considered As a Whole

The same idea of the separate roads being parts of a general whole to which the shippers as a whole bear a responsible relation was expressed by Commissioner Eastman when the New England divisions case was before the Interstate Commerce Commission. "The issue presented," he said, "was to be regarded in connection with and as a phase of the larger problem of assuring a larger transportation system, sound and healthy in all its parts. . . . I find no difficulty therefore in reaching the conclusion that in this case we have both the right and the duty of considering the relative importance and cost of the service rendered by the respective carriers but also the financial needs of the New England roads and the consequence to the entire country if they should meet with serious financial trouble."

With this conception of solidarity of railway service in mind, placing the shipper at any point in a relationship of responsibility toward all the carriers in the group serving him, the court proceeds to establish the equity of the weak lines within the group upon the proceeds of the increase in rates which this shipper pays. . . . "To avoid unduly burdensome rate increases and yet secure revenues adequate to satisfy the needs of weak carriers. . . . two new devices were adopted [in the law]: the

group system of rate making and the division of joint rates in the public interest. . . . Where the through traffic would under these circumstances [i.e., present earnings of connecting carriers being ample] bear an increase of the joint rates, it might be proper to raise them and give the weak line the whole of the resulting increase in revenue." (Justice Brandeis, N. E. divisions case).

The Equity of the Weak Carrier

By the foregoing stages may be traced out in the court opinions the equity of the weak carrier in the collections of all the carriers under an authorized rate on through business. This was an equity deduced from the provisions of the law, but the constitutionality of provisions in any law that ran to this outcome was assailed. In the New England divisions case the court met this contention of unconstitutionality. Citing the argument "that there is no difference between taking part of one's just share of a joint rate and taking from a carrier part of the cash from its treasury; and, thus, that apportionment according to needs is a taking of property without due process" [and therefore unconstitutional] the court rejoined, "But the argument begs the question: What is its just share? It is the amount properly apportioned out of the joint rate."

It is. . . . fixed at what that board [the Interstate Commerce Commission] finds to be just, reasonable and equitable. Cost of the service is one of the elements in rate making. It may be just to give the prosperous a smaller proportion of the increased rate than of the original rate."

In more specific application of this proposition, the opinion carries the argument further "If by a single order the commission had raised joint rates throughout the eastern group 40 per cent and in the same order had declared that 90 per cent of the whole increase in the joint rates should go to the New England lines (in addition to what they would have received under the existing divisions), clearly nothing would have been taken from the Trunk Line and Central Freight Association carriers, in so ordering."

By the foregoing excerpts from opinions of the Interstate Commerce Commission and the Supreme Court it is clear that the receivers of the St. Paul in their proposition for rate relief are proceeding along well defined lines where there is ample precedent.

Believes Idea Economically Sound

But while it may be of immediate practical import that the principle invoked is legally entrenched, it is of far greater importance that the principle itself be economically sound. The writer believes it to be economically sound. The relief measure is not socialism as insurance is not socialism, for the reason that in both cases the inequalities to be compensated are theoretically limited to those inequalities which are beyond individual control, and also for the reason that the amount of compensation is held to the minimum required to keep the weak carrier in continuous and effective service. Before the insurance is applicable at all, the intending carrier, weak or strong, must qualify to the mind of the commission as to the "importance to the public of the transportation services" [language of the statute] it performs and that the joint rates and the divisions of such rates are at the time "desirable in the public interest." When the carrier thus qualifies it is part of a public service as a whole in a solidarity of interest and community of performance that may not be interrupted without grave inconvenience and disservice to the public. Being thus secured against conditions beyond its individual control, the carrier's energies are released to perform more effectively its service to the public.

T. C. Powell Elected President of C. & E. I.

Erie traffic vice-president succeeds W. J. Jackson, who is elected chairman of Executive Committee

THOMAS C. POWELL, vice-president in charge of traffic of the Erie, was elected president of the Chicago & Eastern Illinois at the meeting of the board of directors on July 9, to succeed W. J. Jackson, who was elected chairman of the executive committee. Mr. Powell will assume his new duties on August 1.

The selection of one of the country's outstanding traffic officers as its president indicates the inauguration of a more aggressive effort on the part of the C. & E. I. to

therefore, suffered acutely from the troubles of the coal industry.

The C. & E. I. emerged from a receivership of 8½ years' duration on January 1, 1922. In its reorganization unprofitable lines were disposed of, while the property had been brought to good physical condition during the receivership and business was good. It was felt that the future of the new company was assured. During the first year of the receivership, however, the situation in the



W. J. Jackson



Thomas C. Powell

recoup the losses in traffic which it has suffered during the last few years. It is the hope of the directors that under Mr. Powell's leadership the road will be able to make greater progress in the development of new traffic to make up for the loss of much of the old standby—bituminous coal.

The C. & E. I. is a road 945 miles long with main lines extending from Chicago to Evansville, Ind., to St. Louis and to the southern Illinois coal fields. The Evansville line serves the Indiana coal fields and also, jointly with the L. & N. and N. C. & St. L., constitutes the Dixie route for Chicago-Florida traffic. The C. & E. I. is pre-eminently a coal carrying road serving both the Illinois and the Indiana fields. Prior to the disorganization of the coal industry a few years ago approximately 60 per cent of the C. & E. I. traffic consisted of coal. It has,

Illinois and Indiana coal fields became acute, culminating on April 1, 1922, in the strike which lasted nearly five months. The shopmen's strike in the same year was a further handicap to the success of the new company.

In 1922, the Chicago & Eastern Illinois had total operating revenues of \$24,731,348 and the net railway operating income was \$2,721,469. In 1923 total operating revenues showed a considerable increase; they were \$28,405,408, while net railway operating income increased to \$3,324,116. In 1924, however, the total operating revenues decreased to \$26,068,789, a decrease of 8.2 per cent. Railway operating expenses decreased 7.5 per cent but net railway operating income decreased to \$1,467,259, which was 55.9 per cent less than in 1923. The reason for the sharp decrease in net operating income was not so much in the decreased traffic as in the change in the

character of the railway's traffic. Thus, the bituminous coal tonnage in 1924 totaled 6,995,126 as compared with 7,660,509 in 1923, a decrease of only 9 per cent. In 1924 the percentage of bituminous coal to total tonnage was 52.15 per cent and in 1923 it was 52.12, in other words practically the same. The difference was that a much larger proportion of the coal was from non-union mines received by the C. & E. I. from connections. The result was that while C. & E. I. cars were idle due to decreased production in the mines on its own lines, the C. & E. I. was paying per diem on foreign cars. In 1923 the road had a credit per diem balance of \$1,059,178 but in 1924 a debit per diem balance of \$202,153. The difference was \$1,261,331 which was about two-thirds of the total decrease in net railway operating income. In 1924, further, the road had a deficit after interest and other charges of \$777,551. In 1923 there was a net of \$1,111,962. This year revenues have further declined. Total operating revenues for the first five months of 1925 were \$10,321,924, compared with \$11,010,732 for the same period last year, while net operating income for five months this year was \$266,642, compared with \$323,968 last year.

Indicative of the seriousness of the coal situation is the fact that 16 of the 82 mines on the C. & E. I. did not operate at all last year, while the remainder worked only 31 per cent of the possible time. It has been noted that the loss of coal traffic originating on its lines was offset to some extent by an increased tonnage of non-union coal from connections. More serious, however, than this loss in tonnage was the per diem situation and the reduction in earnings per ton on the coal received from connections, resulting in a decrease in earnings per ton-mile of all coal handled of 10.75 per cent, equivalent to a decrease in gross freight revenue of \$308,433.

The problem that the Chicago & Eastern Illinois faces is one of traffic—particularly of diversified traffic. It is to be expected that there will be no feature of the road's operations that will receive more of the new executive's attention than an effort to attract to the road increased high-grade diversified traffic to take the place of the union coal business that has been lost. The problem is in effect to make the Chicago & Eastern Illinois self-supporting without its own coal. Mr. Powell is a strong exponent of regularity and certainty of service, and he has done much to build up for the Erie an increased westbound fast freight business not only from New York but also from New England. The C. & E. I. should offer many possibilities for the talents of its new head. Whether the owners of the property have any ideas in mind with reference to consolidations is, of course, a question. It is apparent, however, that if the C. & E. I. should secure a more diversified traffic than it now has it will occupy a much better strategic position in any contemplated mergers than might now be the case.

In the selection of Mr. Powell to assume the presidency of the C. & E. I., the directors secured one of America's foremost traffic experts. Coming to the Erie as vice-president in charge of traffic just prior to the termination of federal control in 1920, Mr. Powell had a leading part in the campaign for new business in which the Erie engaged. Although Mr. Powell's experience has been primarily that of a traffic officer, he has had the advantage also of considerable executive and operating experience. He was vice-president in charge of all departments of the Western lines of the Southern for more than ten years. Under the United States Railroad Administration he served as a director of the Division of Capital Expenditures and as chairman of the Claims Committee.

One of Mr. Powell's outstanding characteristics is the courage of his convictions and his freedom from the

restraint of precedent. On the Erie his traffic policies have been consistently progressive. He is an outstanding authority on freight terminal operation and has put into effect on the Erie a system of terminal deliveries which is probably without parallel in the United States. It is to be expected that he will work out on the C. & E. I. a number of the same plans which he has put into effect on the Erie.

Thomas C. Powell was born on September 5, 1865, at Cincinnati, Ohio, and began railway work in 1884 as a mail clerk on the Cincinnati, New Orleans & Texas Pacific, now a part of the Southern. He was promoted successively to rate clerk, chief rate clerk and chief clerk to the traffic manager and was appointed assistant general freight agent in June, 1893. He retained that position until November, 1895, when he was appointed chief clerk to the general freight agent of the Southern, in charge of the rate and tariff department. In 1895 Mr. Powell was promoted to general freight agent and less than a year later was promoted to assistant freight traffic manager. He was promoted to freight traffic manager in March, 1902, and held that position until April, 1905, when he was elected vice-president in charge of traffic. On August 1, 1907, Mr. Powell was elected vice-president in charge of all departments of the Cincinnati, New Orleans & Texas Pacific and the Alabama Great Southern, later holding the position of vice-president of the Southern Railway, Lines West, at Cincinnati, Ohio. Soon after war with Germany was declared he was appointed manager of inland traffic of the War Industries Board and in January, 1919, was appointed director of the Division of Capital Expenditures. He later served also as chairman of the Claims Committee. Early in 1920 Mr. Powell was elected vice-president in charge of traffic of the Erie, which position he held until his recent election as president of the Chicago & Eastern Illinois.

Strong Physical Condition Due to Mr. Jackson

The great progress made by the C. & E. I. during the 8½ years of receivership and the maintenance of its strong position in every respect except traffic since that time, is due to Mr. Jackson. The belief that the future of the C. & E. I. was so secure when the company was reorganized in 1922 was founded solely upon the excellent results that Mr. Jackson had been able to obtain as receiver for the road. With only modest funds at his disposal, he directed expenditures for improvements in such a manner that the physical condition of the property was made better than it had ever been before. In addition, he developed the coal traffic of the C. & E. I. to its financial advantage and established its Chicago-St. Louis passenger business on a sound basis in spite of strong competition. His aptitude in handling men has proved most valuable, particularly subsequent to the shopmen's strike. Mr. Jackson's election to the position of chairman of the executive committee was a recognition of the board of directors that the C. & E. I. still requires the counsel of Mr. Jackson in the administration of its affairs. While his participation in this administration will, of course, be less active, it will nevertheless prove of unquestioned value.

William J. Jackson was born at Toronto, Ont., on December 28, 1859, and entered railway service in 1877 as a machinist's helper in the shops of the Grand Trunk at Toronto. He was later transferred to the freight department and for three years was a freight clerk at Toronto and for the following three years chief claim clerk of the Chicago & Grand Trunk, now a part of the Grand Trunk Western, at Chicago. He was promoted to general freight foreman in August, 1885, and

in November, 1890, was promoted to assistant agent at Chicago. He entered the service of the Chicago & Eastern Illinois in August, 1891, as assistant local freight agent. He was promoted to agent in January, 1893, and six years later was promoted to assistant general superintendent. On February 1, 1903, Mr. Jackson was promoted to general superintendent, a position he occupied until November, 1906, when he was promoted to general manager. On December 3, 1909, at the time of the separation of the Rock Island and the Frisco Systems, he was made vice-president and general manager of the C. & E. I., and of the Evansville & Terre Haute, which was later absorbed by the C. & E. I. In this position he was the active head of the properties for a little more than three years prior to the receivership. When the receivership was established in 1913, Mr. Jackson was appointed receiver, and he was elected president in 1922, when the company was reorganized.

Protective Section Holds Annual Meeting

THE annual meeting of the Protective Section of the American Railway Association was held at the Auditorium hotel, Chicago, on July 8-10 with W. W. Morrison, chief special agent of the Atlantic Coast Line, acting as chairman. In his opening address Mr. Morrison pointed out the fact that the large number of car robberies is due to a great extent to the use of one-hand guns which jeopardize the lives of those making an effort to reduce car robberies. To eliminate this hazard he recommended that the distribution and sale of one-hand guns be placed under the jurisdiction of the federal government and that laws be passed prohibiting their distribution and sale to persons not entitled to carry firearms in connection with their occupations.

Among those addressing the meeting were E. A. Stedman, vice-president of the American Railway Express Company, M. A. Collins, general superintendent of police, Chicago, C. H. Deitrich, freight claim agent of the Chicago, Milwaukee & St. Paul, R. V. Fletcher, general solicitor of the Illinois Central, W. M. Jeffers, general manager of the Union Pacific, J. A. Connell, general attorney of the Chicago, Burlington & Quincy, and A. L. Green, special representative of the Freight Claim Division of the American Railway Association.

J. C. Harper, superintendent of police of the Pennsylvania, spoke upon "The Invisible Policeman." Samuel Allender, chief special agent of the St. Louis-San Francisco, presented a paper on "Co-operation and Exchange of Information Between Railroad Special Agents, Police Departments and Municipal Officers." M. Welsh, chief special agent of the Chesapeake & Ohio, spoke upon "Trespassing on Railroad Right-of-Way and Property." F. H. Schoeffel, chief special agent of the Delaware, Lackawanna & Western, presented a paper on "Fingerprints and Identification."

The subject of a paper presented by L. J. Benson, superintendent of police of the Chicago, Milwaukee & St. Paul, was the necessity for automobiles in apprehending car thieves due to the use of automobiles on concrete and hard roads. A. H. Cadieux, acting chief of the department of investigation of the Canadian Pacific, spoke upon "The System of Protecting Common Carriers and Co-operation Between Railroad Special Agents, Police and Law Enforcement Officers in Canada." R. G. Edgeworth, chief special agent of the Chicago Junction, spoke

upon "Identification of Cigarettes, Automobile Tires and Other Merchandise." H. L. Denton, general superintendent of police of the Baltimore & Ohio, spoke upon "The Proper Investigation of Freight Claims by Special Agents and Co-operation with Freight Claim Agents." D. O'Connell, chief special agent of the Southern Pacific, presented a paper on "Personnel of Railroad Special Agents and Police Departments." W. M. Skenyon, chief of police of the Hocking Valley, spoke on "The Preparation of Cases and Co-operation with Law Enforcement Officers."

W. W. Morrison, chief special agent of the Atlantic Coast Line, was elected chairman for the ensuing year. J. C. Gale, chief special agent of the Union Pacific, was elected first vice-president and T. E. Pratt, chief special agent of the Chicago, Burlington & Quincy, second vice-chairman. J. C. Caviston was re-elected secretary.

The successful work of the Section was shown in figures compiled by the Freight Claim Division of the American Railway Association which show that during 1924 only \$8,805,817 was paid in claims on account of robberies, loss, and concealed loss as compared with \$10,538,726 in 1923. In contrast, this amount totalled \$43,618,848 in 1920, \$31,949,184 in 1921, and \$13,700,993 in 1922. For the first quarter of 1925 the amount totalled \$1,778,696. Robbery of entire packages showed a decrease of 27.9 per cent for the first quarter of 1925, compared with the first quarter of 1924, robbery of other than entire packages a decrease of 43.3 per cent, loss of entire packages a decrease of 34.5 per cent, loss other than entire packages, 26 per cent and concealed loss, 35.9 per cent, making a total reduction in robbery and loss of 32.4 per cent.

D. L. & W. Train Control

WASHINGTON, D. C.

THE Interstate Commerce Commission has made public a letter from E. H. DeGroot, Jr., director of its Bureau of Signals and Train Control Devices, to J. M. Davis, president of the Delaware, Lackawanna & Western, regarding the preliminary inspection of the installation of the two-speed continuous induction device of the Union Switch & Signal Company on the 37.0 mile double track section between Elmira and Bath, N. Y. As a result of this inspection, the following criticisms and comments are offered:

1. No interference from foreign current influences was reported and none observed during the inspection, nor was there any evidence of foreign currents having been existent at any time. However, should such condition later develop, effective means will have to be provided for overcoming the trouble.
2. No provision has been made in this installation for having enginemen acknowledge at succeeding stop-signals.
3. The double heading cock in use may be partly turned without interfering with the air brake system, and yet prevent an automatic brake application. We are assured by your representatives that this condition is already being corrected.
4. It is understood that passenger locomotives, and all others carrying in excess of 90 pounds brake pipe pressure, will be equipped with pressure maintaining valves in order to meet the requirements.
5. While no such difficulty was reported or observed on this installation, nevertheless, as with all air-brake devices, the freezing of any one of several valves in normal position may constitute a potential source of serious failure, and effective means should be applied to prevent an accumulation of moisture in these valves sufficient to effect the sealing closed of their ports.

Commissioners McChord and Esch approve this letter. Commissioner McManamy, the other member of Division 1, asked to be noted as not concurring in the criticisms because of their relative unimportance, and because they are not based upon anything contained in the order under which the installation is being made.

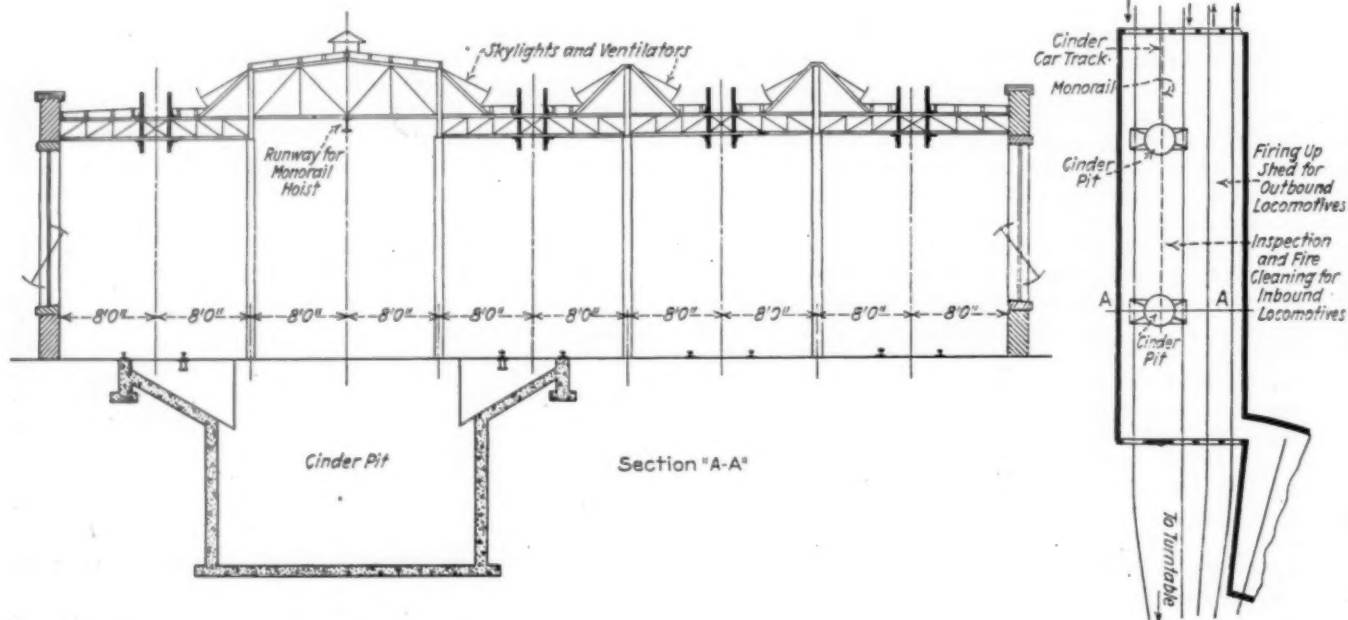
Smoke Problems Discussed at Grand Rapids Meeting

Possibilities of smoke control by fireless steaming, with a separate firing-up shed

THE Smoke Prevention Association held its nineteenth annual convention at Grand Rapids, Mich., June 17-20, inclusive. The third day of the convention was "Railroad Day," being featured by interesting papers on various phases of the smoke problem as affecting the railroads; a topical discussion on the subject of locomotive smoke abatement; a moving picture, provided through the courtesy of the Pennsylvania, and showing practically smokeless operation by a suitable mixture of high and low volatile coals; and an inspection trip to a local enginehouse where methods of making and clean-

tive or steamboat, for a period, or for periods aggregating two (2) minutes or more in any period of fifteen (15) minutes, and the emission of such smoke from any locomotive or steamboat for a period or periods aggregating one (1) minute or more in any period of eight (8) minutes, except for a period not to exceed twenty (20) consecutive minutes, not to exceed once a day while a new fire is being built therein, is hereby prohibited.

From the time this ordinance was made effective, the Pennsylvania Railroad has co-operated with the city of Pittsburgh in enforcing its provisions on the railroad. It was not, however, until August, 1924, that the work was centralized under the general superintendents, and a chief



Enginehouse Design for Use of Fireless Steaming System—Note Segregation of Fire Cleaning, Housing and Firing-Up Operations—If Desirable to Eliminate All Smoke a Comparatively Small Number of Smoke Cranes Are Required

ing fires were demonstrated. Two of the papers are abstracted in the following pages.

The new officers-elect of the association are: President, W. R. Supple, superintendent, Mechanical Bureau, Buffalo, N. Y.; vice-president, M. J. Rooney, American Radiator Company, Buffalo, N. Y.; vice-president, T. J. Finn, smoke inspector, Penna., Chicago; secretary-treasurer, F. A. Chambers, chief smoke inspector, Chicago.

Smoke Prevention in Pittsburgh

By A. T. Mitchell

General Smoke Inspector, Pittsburgh District, Pennsylvania

Section 2 of Ordinance No. 566, City of Pittsburgh, provides:

The production or emission within the city, of smoke, the density or shade of which is equal to, or greater than number three (3) of the Ringlemann Chart, from any stack, except that of a loco-

inspector appointed with authority extending over all divisions in the city. By arrangement with the officials of the company, the chief inspector keeps as closely in touch with the Bureau of Smoke Regulation of the city of Pittsburgh, as he does with the general superintendents, coordinating the railroad's work with that of the city and making possible a higher degree of efficiency than could otherwise be attained.

The Bureau of Smoke Regulation has assigned an inspector, who is an experienced engineman, to railroad work alone, so that the city has the constant double contact, through its own inspector and through the railroad's chief inspector. The fact also that on the railroad the effort is to prevent not only smoke of No. 3 density, but any visible smoke, has had its effect.

The personnel of the railroad's department of smoke regulation consists of a chief inspector, who, as has been said, is responsible directly to the general superintendents, and twelve smoke inspectors; in addition, enginehouse

foremen and their assistants are responsible for conditions in the enginehouse and storage yards. The chief inspector has supervision over the work in the entire district, and sees also that all points are kept supplied with proper fuel. He reports by telephone each morning to the Bureau of Smoke Regulation, the amounts of fuel at the various points, the results of any special investigations he has been asked to make and receives such suggestions or instructions as may properly be given him by the Bureau.

Each inspector make a daily report covering his activities. A copy of each report goes through regular channels to the general superintendent and a copy is sent to the Bureau of Smoke Regulation of the city. When a violation or a bad condition (a bad condition is visible smoke, though not sufficient in volume or time to be a violation) is reported, either by a railroad inspector or the city inspector, the proper officers are notified, the crew con-

of a Pittsburgh enginehouse, is supplied with 1,000 lb. of low volatile coal on the front of the tank to keep the fire in proper condition while lying at the enginehouse, to build the fire for the road and to aid in preventing smoke while the engine is in what is called the "smoke district." This low volatile coal is loaded after

	High volatile		Low volatile	
Moisture	2.40	1.95	1.60	1.60
Volatile matter	40.30	34.07	18.20	19.24
Fixed carbon	45.30	56.69	73.78	72.77
Ash	12.00	7.29	6.42	6.42
Sulphur	3.50	1.18	1.92	1.92
B.t.u.	12,800	13,775	14,286	14,420
Fusing point, deg. F.....	2,205	2,444	2,395

the fire has been cleaned or built, and the amount, 1,000 lb., has been found to be sufficient, although there is now under consideration the possibility of extending its use to local trains serving the suburban towns near Pittsburgh. Low volatile coal is used also in all power plants in the city whose boilers are fired by hand.

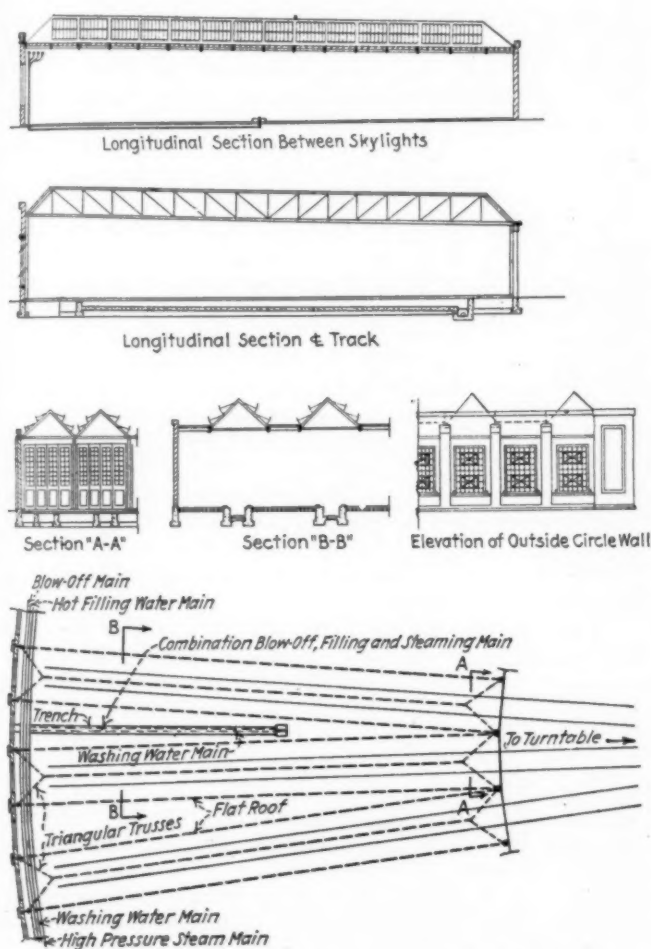
[Mr. Mitchell here described in some detail the methods of building, cleaning, knocking and banking fires on the Pennsylvania in the Pittsburgh district.—EDITOR.]

Saving

The saving due to the present method may be attributed to fuel, firing and supervision. When the previous method was in use with high volatile coal, the blowers on the locomotives were in constant use; while this tended to lessen the amount of smoke, the stacks were not as clean as they are with the low volatile coal, and it was impossible to draw the line below Number three of the Ringlemann Chart; besides the continuous use of the blower would burn out the fire whether or not the engine was working, which meant that more coal had to be fired, which made more smoke. More air also had to be admitted over the fire door, which of course had its effect on the firebox and flues. It has been found that 20 per cent more high volatile coal is necessary than if low volatile coal is used, and a large percentage of this excess is burned because of the use of the blower, and gives no beneficial result. With low volatile coal, it is possible to keep a locomotive out in shifting service from four to six hours longer than with the high volatile coal, with fewer repairs to tubes and firebox. Getting up steam with fan or forced air draft has been found to be more economical than with steam blower. The steam that is used to fire one locomotive, if converted into electric energy, is sufficient to fire three locomotives with fan draft. These factors, plus the co-operation of the officers, plus the most excellent work of the inspectors and the close supervision by the Bureau of Smoke Regulation of the city, have made possible the practical elimination of dense smoke on the railroad, with a consequent large saving in fuel cost. An average of 125 fires daily, distributed among six enginehouses, are built on the Pennsylvania in the city of Pittsburgh. In normal times, the Pennsylvania will operate approximately 1,000 locomotives in and out of the enginehouses, through the Pittsburgh district to the big freight yards outside the city every twenty-four hours, the enginehouse at Twenty-eighth street having handled as many as 90 engines over the ashpits in eight hours.

There are 226 passenger trains arriving at and the same number departing from the Pennsylvania Station every twenty-four hours.

The Central Region used nearly seven million tons of coal during the year 1924, of which 5,850,000 tons was



Enginehouse Design for Fireless Operation Permits Effective Arrangement for Overhead Lighting and Ventilation

cerned is required to make a written explanation, the case is reviewed by the proper railroad authorities, and the crew dealt with by warning, reprimand or suspension as the case may warrant. This is then reported to the city in writing; it is a satisfaction to be able to say that there are few violations and few cases where discipline is necessary.

Fuel

Two kinds of coal, bituminous or high volatile, and semi-bituminous or low volatile, are used in the district.

All locomotives in shifting, work train and interchange freight service use low volatile coal exclusively. Each locomotive in passenger and freight service, working out

used by locomotives. Of this amount, nearly a million tons was used within the limits of the city of Pittsburgh.

In conclusion, it should be said that the Pennsylvania Railroad does not look upon the Bureau of Smoke Regulation of the city as a policeman, but rather as a part of its own organization, placed there to render assistance to the company. It considers that it, in turn, is a part of the city's organization, with a responsibility to do its utmost to eliminate smoke. This close co-operation between the two, making them practically one organization, has been the main factor in the success thus far attained in this work in Pittsburgh.

The Fireless Steaming System at Locomotive Terminals

By L. G. Plant

National Boiler Washing Company, Chicago

With few exceptions the most important locomotive terminal construction of today represents merely an enlargement of the same type of facilities that were the features of terminal design a generation ago. There has been no fundamental change in the routine of turning locomotives to shorten the time in which they can be properly handled, and many of the most primitive elements of terminal construction are still regarded as essential. With the exception of smoke ducts and smoke-washing equipment installed at a few modern terminals, the old open smoke jack remains as the only means of smoke disposal.

The cost of installing a smoke duct system requiring cranes that can be placed over the locomotive stack at each stall to draw the smoke down into underground smoke ducts leading to a stack outside the enginehouse as installed by the Pennsylvania Railroad at Canton and Crestline, Ohio, and other modern terminals, is regarded as prohibitive for the average terminal installation and the expense of operating a smoke washing plant as conducted by the New York Central at Englewood has been found very burdensome. Consequently, the average enginehouse is as dingy with smoke as the older houses and the prevention of smoke at locomotive terminals is still as much a problem as heretofore.

While the production of smoke at terminals not located near residential areas may apparently involve no direct penalty, it does affect the working conditions within the enginehouse and the elimination of smoke would be a distinct advantage to locomotive terminal operation in any location. If it were possible to duplicate back shop working conditions within the enginehouse by the elimination of smoke and blower steam, it would improve the character as well as the speed and safety of locomotive maintenance at terminals to a surprising extent.

This can be accomplished more easily than is generally appreciated by employing the recently developed fireless steaming method and providing a firing-up shed adjacent to the enginehouse. This arrangement would result in segregating the fire-cleaning, housing and firing-up operations into three distinct positions at the terminal. Where it is necessary or more economical not to dump the fire, the locomotive moves directly from the fire-cleaning position to the running shed provided for firing up locomotives or holding them under steam.

The direct or fireless steaming method was first described in a paper on feed water heating before the Central Railway Club at Buffalo on February 12, 1925, and a more complete description of this system together with a summary of recent tests of the methods involved, is contained in the current report of the International Rail-

way Fuel Association's Committee on Feed Water Heating. A comprehensive abstract of these articles will be found in the February 21 and June 6 issues of the *Railway Age*, also in the April 1925 and current issues of the *Railway Mechanical Engineer*.

In the direct or fireless steaming system a mixture of live steam and hot water is injected through the blow-off valve. When the boiler has been filled in this manner to a point where water shows in the glass, the water supply is closed and the flow of steam continued through the blow-off valve until the pressure in the boiler equalizes with the steam pressure in the supplying main or until a sufficient working pressure has thus been built up in the boiler.

To generate the desired steam pressure quickly it is necessary to supply steam at a pressure considerably higher than the pressure to be generated in the boiler as the rate of steam flow decreases as the pressures tend to equalize. It is also necessary to supply filling water at a temperature not less than 180 deg. F. so that the resulting mixture of water and steam entering the boiler will be well over 212 deg. Otherwise the steam would all be condensed instead of building up a working pressure. The operation of this method is, therefore, contingent upon a hot water filling system and adequate live steam generating capacity.

If these facilities are available, however, it is a comparatively simple matter to install the direct steaming system at any terminal by the addition of a live steam main from the power plant to the blow-off and filling connections. The hot water and steam is combined in a special connection known as the direct steaming booster and the resulting mixture is injected through the blow-off valve or a special connection in the base of the locomotive boiler so that the temperatures throughout the boiler while filling will be uniform. If the steam and water were not combined or were injected into the upper part of the boiler, the steam would tend to segregate and accumulate in the top of the boiler before the water in the lower portion of the boiler had been raised to the temperature of the steam.

When the locomotive boiler is filled in this manner, the fire may either be lighted as soon as water shows in the glass or a steam pressure sufficient to move the locomotive outside the house may be generated without lighting the fire on the grates. If the fire is lighted immediately, the time required to fill and steam up locomotives can be reduced to about one-half hour. The time required to fill and steam up a locomotive to 100 lb. pressure in the manner described without lighting the fire is about one hour. Where the boiler is not emptied at the terminal, the locomotive can be held under steam for any length of time without a fire on the grates by maintaining a live steam connection at the blow-off valve.

For the purpose of entirely eliminating smoke and blower steam in the enginehouse, the direct steaming method may be employed for generating a working steam pressure and moving the locomotive out of the house under its own steam before the fire is lighted on the grates. To facilitate this movement, a longitudinal firing-up shed is located over the out-bound tracks leading from the turntable. In this position the fires are lighted and when fully ignited, the locomotive is ready to leave the terminal. The firing-up shed is also equipped with live steam mains and connections for attachment to the blow-off valve so that locomotives may be held under steam in this position as long as desired before lighting the fire. The only steam required for this purpose is that condensed to compensate for the heat loss through radiation. If the condensation in the boiler is sufficient to raise the water level above

the proper working level while the locomotive is held in the house, a quantity of the excess water can be blown off through the direct steaming connection which is also connected to the blow-off main.

When locomotives are placed in an enginehouse arranged for fireless operation, connection is immediately made with the direct steaming and blow-off mains through the blow-off valve and this connection is maintained as long as the locomotive remains in the enginehouse. If the boiler is to be washed or the water changed, it is emptied and refilled through this joint connection. If the boiler is not blown down, it may be held under steam without a fire for any desired period by means of the direct steaming connection described. When the boiler has been emptied for washing or water change, it can be steamed up by the direct steaming method at the time it is refilled. The fuel bed may then be laid in readiness for lighting as soon as the locomotive is moved out of the house so that in practice, the fire need not be lighted until very shortly before the locomotive is required for service. This, in itself, will materially lessen the smoke nuisance at terminals where it is necessary to fire up locomotives an hour or more in advance of their movement, and where fires are frequently lighted several hours in advance.

If the terminal is located near a residential area where it is desired to eliminate all smoke, the firing-up shed may be equipped with smoke cranes to be fitted over the locomotive stack while it is being fired up and the smoke carried down through an underground duct to a smoke washer and stack outside the firing-up shed. Or, the more recently developed exhaust fan device can be fitted over each stack and the smoke led through small individual washers of the regular gas scrubber type mounted on the roof directly over each stack exhaust fan. In either case a relatively small number of smoke exhaust units would be required in the firing-up shed compared to the number required for each individual stall of the enginehouse. Where smoke washing or special exhaust means are not installed, a simple arrangement of longitudinal smoke ducts may be employed in the construction of the firing-up shed, analogous in design to the familiar Brush train shed. This construction can also be advantageously extended to the locomotive inspection and fire-cleaning shed over the inbound tracks leading to the turntable.

Where the enginehouse is designed for fireless operation, no smoke jacks are required and an effective arrangement of overhead lighting and ventilation may be employed. This, combined with the entire elimination of smoke and the noise of escaping blower steam makes it possible to duplicate back shop working conditions in the enginehouse. This will have an obviously beneficial effect upon the character and cost of locomotive maintenance at the terminal since the dirty and noisy conditions commonly found in enginehouses today are undoubtedly responsible for much faulty and negligent attention to the current maintenance of locomotives.

The omission of smoke jacks open to the atmosphere will remove the greatest source of heat loss in the enginehouse during cold weather and reduce the expense of heating enginehouses throughout the winter months. Furthermore, the elimination of smoke and moisture from blower steam removes the principal source of corrosion to overhead piping and steel frame work in the enginehouse so that structural steel framing may be safely and economically employed in enginehouse construction designed for fireless operation. In this connection, an ingenious architectural design has recently been developed for the use of steel framing in an enginehouse to provide overhead lighting and ventilation throughout the entire length of each stall, and eliminate all posts between the

stalls. This is accomplished in spans up to 130 ft. in length by a triangular arrangement of steel trusses in which the sloping panels are covered with metal sash. The blow-off, washing, filling and direct steaming mains are carried under the floor to a manhole adjacent to the position of the locomotive blow-off valve.

The capacity of an engine terminal can be considerably augmented by the construction of a firing-up shed in which locomotives can be placed preparatory to departure so that the construction of this facility does not represent an additional investment entirely chargeable to direct steaming and the elimination of smoke in the enginehouse. In fact, it may be claimed that track space in this firing-up shed is at least equivalent to stall trackage in the enginehouse and the arrangement is one that should expedite locomotive handling at the terminal, particularly where locomotives are moved directly from the fire-cleaning to the firing-up shed with banked fires.

In addition to the advantages gained through the elimination of smoke in the enginehouse, attention is called to the fuel economy resulting from the generation of steam in an efficient stationary boiler in place of steam generated in a locomotive boiler during the firing-up stage when its fuel efficiency seldom exceeds 40 or 50 per cent. Reduction in the use of blower steam represents a further substantial economy since steam used for blower purposes is of value only for its velocity effect in creating draft, its entire heat content being wasted. With the fireless steaming method no house blower is required, and the locomotive blower is required for a limited time only as compared with its use when all the steam is generated by a fire on the grates. The extent of these economies and practical character of the direct steaming system has been fully established in recent tests of this method and several installments of the direct steaming equipment are now under way.

New York Central Builds New Ore Bridge at Ashtabula

THE New York Central has recently placed a new Brownhoist ore bridge in service at its No. 1 dock at Ashtabula Harbor, Ohio, to replace one that was blown down last summer. This bridge incorporates several interesting features among which is a patented tractor drive for moving the bridge and holding it in wind storms.

The concrete walls that form the foundations for the bridge structure are 1,080 ft. in length and are spaced 287 ft. 9 in. center to center. Rails of 100-lb. section are used for the four tracks which are of standard gage. The height from the track rails on the foundations to the top of the trolley track rails is 71 ft. The over-all length of the bridge is 632 ft. 5 in. and the trolley travel is 585 ft. 3 in. The Brownhoist ore grab-bucket is of 160 cu. ft. capacity and is rated at 13 tons. In basic ore it has in several instances picked up as much as 22 tons and averages 18 tons in the same ore. Figuring ore at 16 cu. ft. per ton of 2,240 lb., the bridge serves a storage capacity of about a million and a quarter tons.

The new bridge has 32 truck wheels, 16 under the pier trucks and 16 under the shear trucks, all of which are idlers. The bridge is driven along the dock by means of two tractors, one of which is set into each leg of the bridge and these travel on the same tracks as the bridge, although they are in no manner attached to it. These tractors each have eight idler wheels and a huge cast steel driving gear that meshes with a rack extending the

entire length of the dock. The racks are made up of 9 in. by 2 in. bars, 39 ft. 8¼ in. long and spaced 11¼ in. apart, with 4 in. drawn steel pins at 9 in. pitch for teeth. These racks are laid between pier and shear track rails. The bars are anchored to the foundations at their centers which make the anchorage 39 ft. 9 in. apart. The bars are further supported at the spliced joints and at the extreme ends by steel chairs. The total length of each rack is 1,033 ft. 6 in.

The tractors, weighing 90 tons apiece, are each made of two pairs of trucks and have bodies or rectangular frames connected to the trucks by ball and socket connections. Each tractor is equipped with two independent driving units which are coupled together by means of jaw-clutches. While one driving unit per tractor is sufficient to hold or drive the bridge crane, the second driving unit was installed on this bridge merely as a precautionary measure. Each driving unit consists of a 100 hp. motor, geared to a bull-pinion by means of a worm on the motor shaft and spur gears down to the bull-pinion shaft. The bull-pinions are 71.625 pitch diameter, 9 in. circular pitch on 10-in. face and weigh 4 tons each. Solenoid brakes add to the efficiency of the worm gear holding power.

The pier and shear sill constructed for a bridge of the enclosed tractor type must, necessarily, be designed to accommodate the tractors. In consequence, they are substantially arch-shaped with inward strut-like projections against which the tractor-frame abuts. There is only ⅛ in. play between the ends of the tractor frames and the projecting struts on the bridge.

Several advantages are gained by using separate tractors as a means for propelling a bridge along its runway. One of these is quicker delivery, because the bridge structure may be entirely erected without delays and the tractors installed in their designed places after the bridge proper has been completely erected. Also, the tractors are entirely shop-built and a better mechanical job is assured. Second, when the bull-pinion driving mechanisms are built into the bridge, as has previously been done, the bull-pinions cannot at all times mesh properly with the racks on the foundation because of the irregularities in the foundations. To illustrate: When the bridge sills span depressions in the rack and trackways, as for ex-

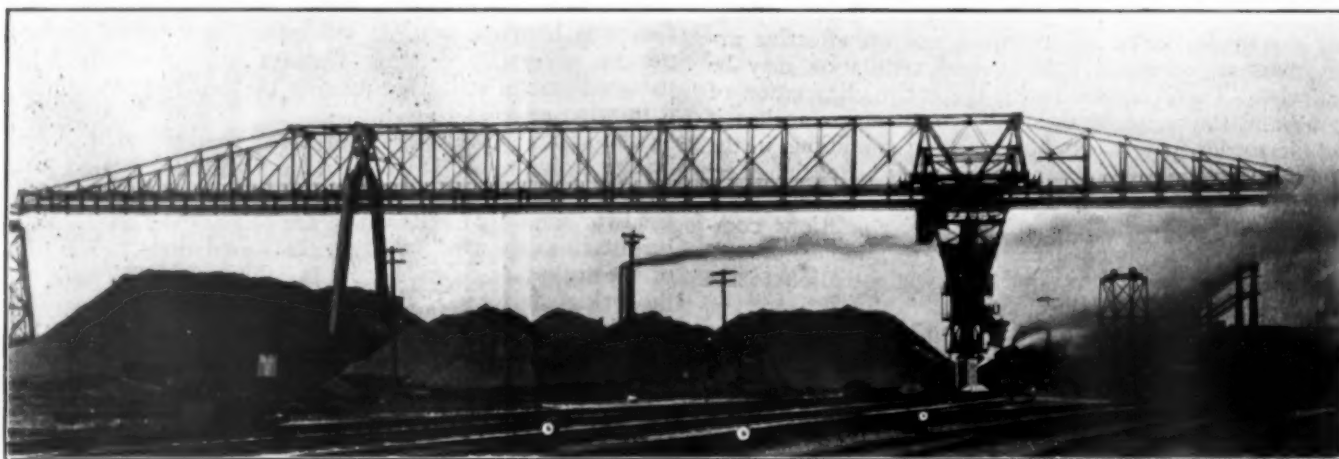
As the center to center distance of the trucks on the tractors is much less than the center to center distance of the sill-mounted bridge crane trucks, this condition will be reduced to a negligible extent on the tractor drive.

Most bridges are adapted to skew because the propelling



One of the Legs Showing the Truck and Tractor

elements do not drive the pier and shear trucks at a uniform speed. When either end of the bridge is advanced over the other, the bridge span has a skewed relation to its pier and shear supports and this results in the shear legs tilting inwardly at the top toward the pier. Because



The Ore Bridge Spanning the Dock and Storage Yard

ample the chord of an arc, they will be farther away from the track and racks at the center portions where the bull-pinions are mounted than at the ends which are near the trucks. Consequently the bull-pinions will be lifted out of an accurate mesh with the rack and, conversely, when there is a hump in the rack and trackways between the trucks, the bull-pinion will project too far into the rack.

the sill is a component and integral member of the shear support, it will likewise be out of plumb, as will also any mechanisms that are attached to it. When separate tractors are employed for driving, the skewing of the bridge will have no effect on the mesh of the bull-pinion and rack teeth because the tractor is not fastened to the bridge and will retain its normal relation to rack and foundations.

Freight Car Repair Industry Addresses I. C. C.

*The Commission is requested to correct impression created
by former decision and provide accounting system
to develop true car repair costs*

ON July 14 a communication was addressed to the members of the Interstate Commerce Commission by 17 representative members of the freight car repair industry, this communication being abstracted as follows:

This industry, exclusive of facilities provided for the building of new equipment, represents an investment of approximately forty millions of dollars. It is not in any sense a new industry, but has been serving as an efficient auxiliary to the country's transportation machine for many years, called into being by economic demand when freight car rebuilding came to be recognized as a production problem and, as such, suited only to the processes and economies of the manufacturing arts.

We feel that the country as a whole and all of its governmental agencies recognize the necessity of according to every reputable and serviceable unit of the country's industrial structure full and fair opportunity for prosperous development, unhampered by artificial barriers as contrasted with true economic problems; that the country cannot attain a desirable plane of prosperity so long as its transportation unit is not sharing in prosperity; that neither the country nor its transportation unit can enjoy prosperity so long as other important units in the industrial structure are not sharing it; in short, that prosperity as a whole depends upon the impartial sharing of prosperity—insofar as a share has been earned.

From the nature of our government, the magnitude of our country and the rapid birth of new commercial interests, it follows that each industrial unit tends to become relatively smaller as compared to the whole, and the necessary branches of government become more pregnant with possibilities for help or for injury—more fruitful for encouragement or embarrassment.

In such a situation we believe that the governmental agencies will wish to be more than ever cautious in the exercise of their powers, lest in this maze of individual interests their point of view do some injustice to any single unit. And we believe that governmental agencies should have the co-operation of every single unit inasmuch as self-interest will invariably detect inequalities more promptly and unerringly than disinterest. To this end we here present a statement of our point of view with respect to matters which we believe are closely related to our well-being.

In the early part of 1921, the Interstate Commerce Commission instituted an inquiry into the question of whether the carriers under its jurisdiction had used good business judgment in entering into various contracts for repairs to their car and locomotive equipment in outside contract shops. The announcement of this inquiry was widely published and its progress, covering a period of over three years, became an important news item the country over. Volumes of figures and volumes of argument were compiled by the commission and by the carriers with respect to instances of both locomotive and car repairs.

For reasons unknown to the authors of this communication, the bulk of the information accumulated relative to car repair contracts was not presented and was not specifically commented upon in the decisions. However, the same publicity was not given to this development, and the decisions themselves, in their titles, inferred that full hearings had been conducted. These decisions commented upon relatively small contracts for car repairs performed by companies not representative of or normally a part of the established industry; contracts neither as to size or conditions representative of the usual factors in contract work and not analyzed by the commission on any proper basis for comparison. And yet the decisions in this case as a whole, on account of the stressing of unimportant particulars, the omission without comment of the important instances, and the announcement of arbitrary accounting principles in connection with the car and locomotive repair work as a whole, have had the effect of a judgment upon the car repair industry at large, all of which, it appears, should in justice to this industry be corrected, insofar as it is possible.

For this reason we beg to present for your consideration:

The Railroad's Main Business is Transportation

1—That the main business of railroad companies is transportation, which is a special occupation requiring special training, and is, in its fundamentals, as foreign to manufacturing as the latter is foreign to transportation. Independent manufacture has provided substantially all of the improvements in railway equipment and such improvements can best continue only under independent manufacture. Independent manufacturing concerns operate under competitive conditions. Railroad shops have no spur of competition, but have a substantial monopoly of a railroad's work if it chooses to confine its work to them. Competition is the only effective cost reducer in the present state of human nature.

2—That furthering this inability of transportation organizations to operate successfully a foreign business under non-competitive conditions, is the fact that the railroad accounts cannot in their nature show and do not show proper manufacturing costs and are not therefore a useful factor in controlling manufacturing costs. That, had these existing railroad accounts contained proper and informative manufacturing data, it would not have been necessary for the commission to make a special study of costs for the investigation referred to.

3—That the commission declared in its decision that railroad overhead cost could be entirely disregarded in such an investigation because the railroad facilities were available for use and the railroad had not shown any saving in overhead expense due to the outside contracting of the work. That this exclusion of overhead is too broad even based upon the reasons given, and is contrary to common reason and the scientific principles of accounting. That pronouncement of such a broad rule avoided the necessity of producing accurate figures of cost, but where the results are likely to be far-reaching we cannot but deprecate an accounting generalization of this nature, emanating from the body whose duty it is to direct the carriers' accounting and provide accurate accounting systems.

That such declarations of policy result in the adoption of similar approximating practices in railroad accounting generally, and create an understanding that failure to control overhead in no way affects the measure of efficiency in railroad manufacturing. That the use by the commission of such incomplete costs, without simultaneous demonstration of the full costs or the true basis for figuring costs, has been and is interpreted as a certificate of railroad shop economy as compared with independent concerns whose accounts are based upon the most modern conception of cost accounting and who cannot arbitrarily wipe overhead out of their costs by "ipse dixit." Based upon this mistaken impression as to efficiency, many railroads are being encouraged needlessly to build and expand shop facilities, all of which is unfairly injurious to the independent car repair industry and is likely to be increasingly harmful as this uneconomic expansion of railroad facilities proceeds.

That while the commission may feel that its declarations have been taken as applying to sets of facts which it did not assume to embrace in its decisions, it can readily appreciate that such broader application is quite natural. As an illustration of this, it is pointed out that the commission itself readily progressed into such broader application when it first justified its omission of overhead on the ground that the facilities were existing and available and then suggested that the alleged extra cost of doing work outside should have been applied to the construction of additional needed facilities.

To make such a comparison, omitting overhead on one side only, to deduce therefrom a possible saving in railroad shop work, and then to conclude that additional shop facilities should have been built to care for the work, is not a logical proceeding because the very building of the facilities will assure a burden of the identical overhead, interest and depreciation which has been arbitrarily omitted in the premises. Neither does such a conclusion consider whether or not the proposed facilities will be constantly employed thereafter or very rarely employed, a factor which could have a tremendous effect on the railroad costs assumed by the commission.

4—That there were grave doubts in the minds of some of the

commissioners as to the jurisdiction of the commission in the investigation referred to. In such a case of questionable jurisdiction, it would seem desirable for an investigative body to closely confine the scope of its inquiry and its decision. For a tribunal to investigate whether this or that expenditure is wise, to determine the answer on incomplete and unscientific compilations, and then to not only declare the money unwisely spent but to go further and say where it should have been spent, is proceeding beyond the necessary limits of the investigation.

Duplication of Facilities is Economic Waste

5—That duplication of facilities is economic waste. There are facilities in the country today quite ample to care for all necessary manufacturing and rebuilding. To recommend the construction of additional facilities for the same purpose is uneconomic, and particularly unwise when the premises underlying the conclusion that they should be built, are incorrect and unreasonable.

6—That no conclusion applicable to the car industry as a whole can be drawn from isolated instances. For example, the opinion of the commission with respect to cars repaired for the Erie involves the performance of work on a lot of 144 cars which is about one-eighth of one per cent of the cars rebuilt at independent shops during that year and represents an allotment of cars so small as to require special and not normal contract terms. The work was performed by a concern which does not usually engage in the repair or manufacture of railway car equipment. The investigation of the commission covered 30 of these cars, which would represent one day's output from a representative shop of the industry.

7—That no comparisons can properly be made by anybody, whether embracing a representative field and founded on scientific accounting records or not, unless it can take into account the difference in the character of mechanical inspection. The inspection by a railroad of its own work and the inspection by a railroad of its contractor's work are two widely different processes when impulses are considered. The same interest which inspects a railroad shop job is the interest which is held responsible for the prompt production of the work. For that interest to criticize quality and thus delay its own work subjects it to superior criticism for its failure to produce. On the other hand, when quality criticism of a contractor's work delays production the blame for non-production is suffered by the contractor.

8—No comparison can properly be made unless it takes into consideration the relative speed of delivery of the work performed. In times of car shortage the delivery of a rebuilt car thirty to sixty days earlier may well mean a financial advantage, not only from car service but from revenue traffic, equal to or exceeding the total cost of the work, and an earlier delivery by even a few days would amount to a sum considerable enough to make a comparison utterly worthless unless it gave due consideration to this feature.

9—That, so far as we are advised, it is not the duty of the commission to participate in the adjustment of the labor problems of the railroads. That in the course of handling such matters, sound weighing of the equities and economies of the case may well dictate the present expenditure by a railroad of abnormal amounts rather than the assumption of greater obligations of a less justifiable nature for the future. That concentrated orders for rush work will in their nature result in higher charges, the same as slack conditions will result in decreased charges.

The Bearing on Stabilized Employment

10—That subsequent to the decisions mentioned the commission has been asked to interest itself in the consideration of how to stabilize employment on the railroads. That a section of the opinion in this matter is based on the thought that the performance of a maximum amount of shop work by the railroads will accomplish stabilization in the shop departments. There is a minimum amount of shop work which must as a practical matter be handled by the railroads themselves. There are times when the necessities of the moment require the railroad to cut down operations to this minimum. Fluctuations in employment will take place between this minimum and whatever maximum the railroads arrange to handle themselves. If they keep their maximum close to their minimum their fluctuations will be between narrower limits and they will have approached stabilization. It is clear that any attempt to confine shop work to railroad shops cannot tend to stabilize employment conditions but can only accomplish the diversion of work from the existing facilities of the country into facilities artificially expanded by this forcing process, resulting in useless duplication of plants.

11—That the commission, being the virtual paymaster of the railroads, its opinions in matters of railroad operating policy are of tremendous weight and influence, irrespective of any question of the commission's jurisdiction in such matters. Such influence on the operating policies of the railroads is possible of effects far-reaching enough eventually to destroy the established and reputable business for which we speak.

12—That the absorption of private and miscellaneous activities by a public corporation is not consistent with American principles, being more the course of communism than of democracy. That such policy of absorption of all incidental activities by quasi-public corporations is the fostering of communistic principles in only a lesser degree. That this country has prospered well under a system of specialization and will continue to prosper so long as one class of specialists is not urged and does not become covetous of the success or reasonable profit of other classes of specialists and wipe out these lines of specialization.

It is no reflection upon the transportation unit of our economic fabric to assert that it cannot become an efficient manufacturing unit, any more than it is a reflection upon an excellent manufacturing concern to say that it is not specially fitted to operate the transportation service.

The gradual realization of the full import of the decisions, and the acceptance by the carriers of these decisions as equivalent to an edict, have prompted this communication. We respectfully submit that perpetuation of the policies sponsored by the commission in these decisions would encourage without limit the duplication of existing facilities, would call for the needless raising of large sums of additional capital for that purpose, would destroy millions of dollars of commercial investment made in the best of faith, would deprive the railroads of their constitutional right to contract, would usurp for the commission authority in labor matters, would deprive the railroads of strong competitive protection and force them to patronize exclusively what amounts to a monopolistic market, and eventually would develop the railroad industry into a labyrinth of trades and manufactures no single one of which would live upon its own merits, no one of which would ever assume responsibility for any inefficiency or collapse of the whole, and all of which if permitted in one combination would be an alarming threat to free institutions, whether or not these railroads eventually remain private property or become public property.

Accounting System to Develop True Costs Requested

We ask not only that the commission consider our point of view in future decisions affecting our industry, but it is our desire to have notice in such cases and be accorded an opportunity to intervene. We ask that the commission take appropriate action to correct the situation here referred to. Above all, we ask that the commission promptly provide for the carriers under its jurisdiction a system of accounting which will currently and scientifically develop true costs for each primary or incidental activity in which they may engage.

Private enterprises in the building and rebuilding of railway cars in America have come into being and have grown, not through any artificial stimulation, but because they have filled an economic need. They should not now have to combat any influences artificial rather than economic. The industry has not only a record of accomplishments in times of peace, but an enviable record of special service in time of war. We are proud of the accomplishments of our industry as a specialist in a great nation of specialists. It yields to no other in its ability to perform its own brand of service most efficiently. In full confidence of this ability we submit our requests to you for equitable consideration.

This communication was signed by: The Ryan Car Company, W. M. Ryan, Pres.; Illinois Car & Manufacturing Co., P. H. Joyce, Pres.; Inter-State Car Company, Eugene H. Darrach, Pres.; General American Car Company, LeRoy Kramer, Vice-Pres.; Wm. Hamilton Sons Car Company, Wm. Hamilton, Pres.; Streator Car Company, George Donnersberger, Pres.; The Ralston Steel Car Company, F. E. Symons, Pres.; Mt. Vernon Car Mfg. Co., W. C. Arthurs, Pres.; Siems-Stembel Company, A. G. Siems, Pres.; Illinois Car Company, T. A. Edmondson, Vice-Pres.; North American Car Company, Henry H. Brigham, Pres.; Pressed Steel Car Company, F. N. Hoffstot, Pres.; Sheffield Car & Equipment Company, Walter S. Carr, Pres.; The Bettendorf Company, J. W. Bettendorf, Pres.; Standard Tank Car Company, Jas. D. Andrew, Vice-Pres.; Pennsylvania Car Company, Geo. L. Mieding, Vice-Pres.; and Buffalo Steel Car Company, F. M. Wills, Pres.

The commission on July 15 made public an order which it had adopted on July 6 requiring railroads to file copies of contracts for repairs or rebuilding work at outside shops, as follows:

The subject of common carriers by railroad causing certain of their locomotives, cars, and other equipment used in the service of transportation to be repaired or rebuilt at construction or

repair shops, other than their own, at costs exceeding the cost of similar repairs in their own shops, being under consideration:

It is ordered, That all common carriers by steam railway of Class I, subject to the interstate commerce act, be, and they are hereby, directed to file with the secretary of the Interstate Commerce Commission within thirty (30) days from the date hereof, copies of any or all contracts or agreements, now in effect, entered into by any such common carrier with any construction or repair shops, other than their own, for the repair or rebuilding of any locomotive, car or other equipment used by any such common carrier in the service of transportation, and, hereafter, to file within ten (10) days after execution copies of any and all like contracts or agreements hereafter made.

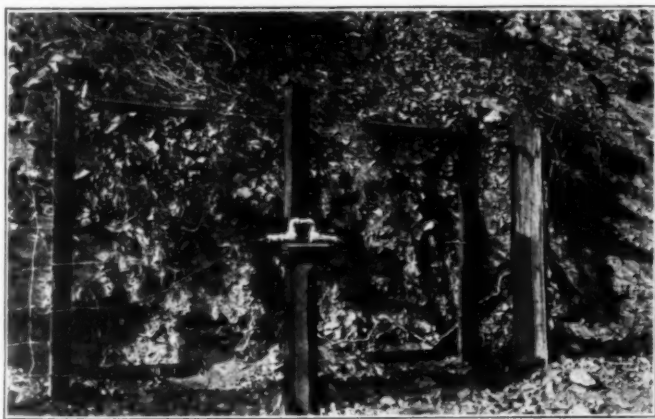
It is further ordered, That copies of this order be served on each common carrier by steam railway of Class I subject to the interstate commerce act.

Northern Pacific Builds Fences to Detect Rock Slides

By C. A. Christofferson

Signal Engineer, Northern Pacific, St. Paul, Minn.

AUTOMATIC block signals, because of their closed circuit control features, lend themselves readily to providing additional safety protection, aside from that which is commonly considered as their function. In 1921 one of our supervisors of bridges and buildings, J. Flemming, conceived the idea of putting a heavy mesh wire fence along the right-of-way on rock slopes, where we occasionally had slides and where it was necessary to maintain a watchman, and to connect these fences up with our automatic block signals. In March, 1923, we installed the first fence on a branch line near St. Regis,



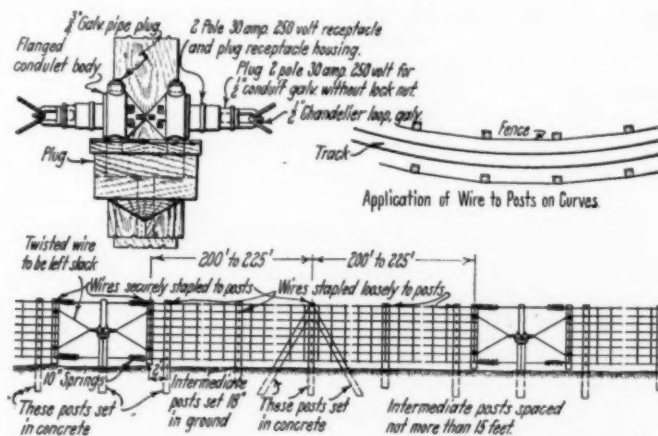
Center Section of Rock Fence Showing Plug Cut-out Connectors

Mont. This consisted of two sections, each 150 ft. long. After installing this fence we were able to dispense with one watchman.

As shown in the sketch, the one end of a 200-ft. section of fencing is stapled solid to the end post and stapled loosely to the intermediate posts, while the end near the plug is stapled securely to a loose stick. The coil springs, top and bottom, which are attached between this stick and the center post, take up the slack in the fence, yet allow movement of the wire mesh when large stones roll against it. Any movement of the fence caused by a large stone rolling against it pulls the wires through the loose staples and jerks the loose stick, thus stretching the springs and jerking the plug out of the connector. The opening of this contact through which the track circuit is connected,

at once sets the automatic signal at the danger indication.

Our records show that this first installation at St. Regis has operated seven times for small slides, stopping ten trains; and three times for large slides, stopping two trains. The second installation was near Bradley, Mont., in October, 1923, which has detected two small slides with five train stops and one large one with one train stop. In November, 1924, a third installation was made on the Idaho division near Weeksville, Mont., consisting of two sections of fence with three connections to circuit, with a total length of 2,286 ft. Our records show we have had one small slide with 12 train stops. One



Detail Construction of Plug Cut-out and Rock Slide Fence

watchman was dispensed with at a saving of \$77.60 per month for ten months of the year.

The fourth installation was made in November, 1924, in the Yakima Canyon on the Pasco division. Ten sections of fence were installed with 17 connections to circuits, with a total length of 5,393 ft. Three watchmen were dispensed with at a saving of \$264 per month. Records show that we have had 34 small slides with 99 train stops and 15 large slides with 40 train stops on this section. Through experience we have been able to modify the installations so that the fences are not operated so often by small slides that would not cause the derailment of trains; thus greatly reducing the number of train stops.

An Electric Lift Tractor Designed for Rough Runways

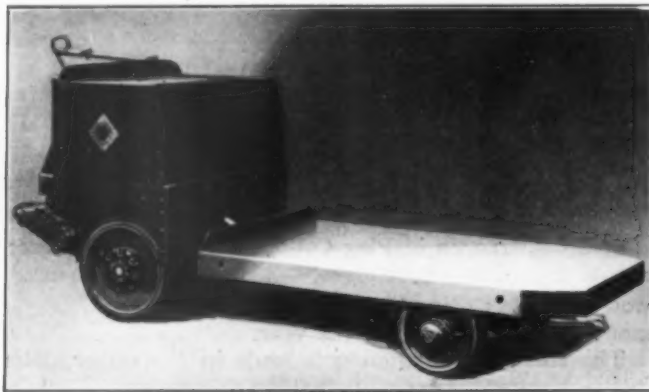
THE Elwell-Parker Electric Co., Cleveland, has developed a heavier unit of its electric lift type of tractor, which is designed especially for use on runways not altogether smooth. This haulage unit is of broader gage than those designed particularly for inside operation. The gage of the front and rear wheels is the same, i.e., 30 in. They are fitted with 22 in. drive and 15 in. front wheels and with either 3½ or 4½ in. tread. The drive wheels are fitted with double row ball bearings weighing 13 lb. each, and radial and thrust bearings measuring 7 in. in outside diameter.

These wheels are carried on drop forged knuckles with drop forged levers pressed upon tapered serrations, assuring a firm union of the two. These knuckles support the weight of the axle, frame and load on a steel ball bearing recessed in a cup at the upper ends. The levers are fitted with ball ends received in steering rod sockets. All rods are placed high beneath the platform

to avoid contact with obstructions on runways. The full floating alloy steel drive shafts are pressed into drop forged clutch plates bolted to the outside of the drive wheels. These shafts are fitted with chrome-vanadium universal joints and engage the splines of the differential.

An innovation in tractor design is found in the all-drop forged differential. The differential carries a special Brown & Sharpe phosphor bronze worm wheel, lock bolted between the two halves of the drop forged differential cage. A multi-thread Brown & Sharpe steel worm on radial and thrust bearings with the above parts of the differential, are assembled and adjusted at the bench and the whole dropped into the axle differential pot. A new type of universal joint inside brake wheel connects the drive worm to the motor shaft with a demountable armature. The motor is fitted with ball bearings.

Another feature found in this type is the flexibility of the drive unit when traveling over rough surfaces or when the platform is loaded unevenly. The tractor platform



The New Elwell-Parker Electric Light Tractor

measures 40 in. in width by 72 in. in length and is formed from a single steel plate with deep side flanges. The platform nose is tapered to aid its insertion beneath a skid, even though approached from an angle.

The lift of this platform is 6½ in. It is 17 in. high when in the lowest position and 23½ in. high when raised.

The frame on this type of tractor is of the standard commercial angles and channel heavy section type, hot riveted throughout and offers possibilities for varying platform lengths. The low set, all-steel battery compartment at one end is fitted with removable end doors and hinged cover to facilitate inspection or quick exchange of Exide or Edison storage batteries. The wiring is unusual in that the leads between controller and battery are continuous—no splices—to motor brush studs and motor field coils. The controller is of an entirely new design with reverse drum.

THE UNITED STATES INLAND WATER CORPORATION is planning to add a tow boat and ten steel barges costing \$1,100,000 to the present equipment of the Mississippi-Warrior Barge Service. The new craft will be designed to draw only 27 in. of water when loaded which will make possible operation throughout the winter.

THE RAILROAD COMMISSION of Texas on July 14 opened a hearing on a plea of the Dallas Chamber of Commerce for a one-line rate governing freight shipments in Texas on the Missouri Pacific, the Texas & Pacific, the International-Great Northern and the Gulf Coast Lines. The Chamber of Commerce contends that as a part of the Missouri Pacific System, the Texas & Pacific should grant one-line rates on the system.

Freight Car Loading

WASHINGTON, D. C.

REVENUE freight car loading in the week ended July 4 amounted to 864,452 cars, an increase as compared with the corresponding week of last year of 106,548 cars and as compared with 1923 of 14,370 cars. As compared with the week before there was a large reduction because of the holiday. Loading in all districts showed an increase as compared with last year and increases were also shown for all classes of commodities except grain and grain products and livestock. Miscellaneous loading showed an increase of 50,377 cars. The summary, as compiled by the Car Service Division of the American Railway Association, follows:

REVENUE FREIGHT CAR LOADING

Districts	WEEK ENDED JULY 4, 1925		
	1925	1924	1923
Eastern	204,550	178,410	204,025
Allegheny	180,220	154,098	191,859
Pocahontas	41,405	32,094	35,830
Southern	125,851	110,579	113,471
Northwestern	129,630	113,929	137,396
Central Western	124,919	116,236	115,983
Southwestern	57,877	52,558	51,518
Total western districts	312,426	282,723	304,897
Commodities			
Grain and grain products	33,831	34,717	31,073
Livestock	24,158	24,864	24,677
Coal	134,030	109,398	155,286
Coke	8,534	6,687	13,771
Forest products	58,735	51,270	54,184
Ore	55,207	48,844	73,609
Mdse., l.c.l.	224,790	207,334	209,594
Miscellaneous	325,167	274,790	287,888
Total	864,452	757,904	850,082
June 27	991,341	908,251	1,021,471
June 20	982,600	903,546	1,004,982
June 13	987,196	902,592	1,008,838
June 6	994,874	910,793	1,012,312
Cumulative total, 27 weeks	25,162,080	23,943,056	24,855,584

The freight car surplus continues to show a gradual but slight reduction and for the period ended June 30 averaged 307,495 cars, including 109,404 coal cars and 149,405 box cars.

The Canadian roads for the same period had a surplus of 35,890 cars, including 32,150 box cars.

Car Loading in Canada

The effect of the Dominion national holiday (July 1) is apparent in the revenue car loadings at stations in Canada for the week ended July 4 which show a decrease of 5,390 cars from the previous week. The decrease in the eastern division was 3,522 cars and in the western division 1,868 cars. Merchandise showed the largest decrease, namely, 1,686 cars. Compared with the same week last year the car loadings showed a decrease of 1,638 cars in grain and 3,073 in coal. Gains were recorded in miscellaneous freight of 1,498 cars and in other forest products of 618 cars.

Commodities	Total for Canada			Cumulative totals to date	
	July 4, 1925	June 27, 1925	July 5, 1924	1925	1924
Grain and grain products ..	5,164	6,602	6,802	158,714	223,382
Live stock	2,127	2,197	1,748	58,831	58,107
Coal	1,444	1,743	4,517	94,609	130,023
Coke	256	132	184	7,407	6,381
Lumber	3,466	4,024	3,579	91,178	96,890
Pulpwood	2,188	2,134	1,862	82,039	84,863
Pulp and paper	1,617	1,877	1,437	55,494	54,656
Other forest products	2,791	2,835	2,173	79,581	75,083
Ore	1,349	1,679	1,603	34,734	31,451
Merchandise L.C.L.	13,819	15,505	13,723	399,923	378,340
Miscellaneous	12,847	13,729	11,349	304,819	305,614
Total cars loaded	47,068	52,458	48,977	1,367,329	1,444,791
Total cars received from connections	31,547	32,829	28,947	887,194	887,334

Problems and Trials of the Interstate Commerce Commission

Nickel Plate merger; railway consolidation; St. Paul situation; rates; valuation, leading questions now waiting solution

By F. J. Lisman
F. J. Lisman & Co., New York

A WESTERN correspondent asks the question: "What has the Interstate Commerce Commission against the northwestern railroads? Why does it not let them have the same rates as it permits in the Southwest?" This correspondent reasons backwards. The rate structure throughout the West is the same but the southwestern roads carry more profitable commodities, while the northwestern roads carry more of the commodities on which the freight rates are unprofitable. Like him many others are ready to take a fling at the commission, and few realize its tremendous problems and difficulties. It is doubtful whether there are any officers connected with this, or any other government, who are as hard worked and who have as many problems to pass upon constantly, and who as thoroughly apply themselves to their jobs as the eleven members of the Interstate Commerce Commission.

The Interstate Commerce building is probably the greatest depository in the world for the greatest variety of human selfishness. Thither come the large railroad companies with requests for rate advances and other advantages; also the "tank town" which opposes possibly some national improvement because it does not want the local railroad division point moved, because the town would thereby be deprived of the trade of several railroad crews, hitherto compelled to stay in the town over night. Many shippers come with requests for rate advantages over their competitors. Among the most aggressive self-seeking bodies are the secretaries of many chambers of commerce, who in their endeavor to earn, or to appear to earn their salaries, seek unreasonable advantages for their particular communities. If there should ever be a retired Interstate Commerce commissioner, who has not been worn out at his job, he could write most interesting memoirs, though it would take the combined powers of Thackeray and Mark Twain to do full justice to the welter of human selfishness, greed, and narrowness.

The Interstate Commerce Commission is a body delegated by Congress to protect from every angle the interest of the public and of the railroads in the conduct of transportation between the states. These powers, while wide in some respects, are closely circumscribed in other ways by the interstate commerce act of 1887 and its subsequent amendments. When people wonder what action the commission is going to take on any subject, they must consider that this subject is going to be looked at from every possible angle by eleven different men, with eleven totally different backgrounds and sets of experiences. It takes time to conciliate all these sets of experiences and views, and for that reason the commission is not very likely to act in a hurry on any important subject. Mr. McAdoo once said that the I. C. C. tended to be a debating society. This slowness of action while

very trying to those who want something in a hurry, it is doubtless beneficial as a whole.

If a good reorganization plan is one which meets with equal opposition and criticism from all quarters, so a decision of an important case, which is a compromise of many different views, is probably fairly just if it meets with criticism from all sides. The Interstate Commerce Commission, like a judge, no doubt often finds the law under which its decision must be rendered to be very irksome indeed. Besides, commissioners, like judges and the rest of us, are bound to be guilty of a certain number of errors of judgment.

The Nickel Plate Merger

Wall Street is now particularly interested as to whether the Interstate Commerce Commission will permit the consolidation and leases under the pending Nickel Plate plan. Much testimony has been taken before the commission on this subject; there has been much recrimination but comparatively little light. The violent contentions of the parties before the commission and the apparently very slow progress are explainable by the fact that important precedents are being created and that the commission wants to bring out every possible angle, present, past and future, of this situation. The proposed Nickel Plate deal is an agreement between five separate parties. These are the New York, Chicago & St. Louis; the Pere Marquette; the Erie; the Chesapeake & Ohio, and the Hocking Valley, represented in each case by a majority of their boards of directors. If the terms of the proposed exchange of securities and leases were changed in any one case, the whole deal would fall to the ground, unless assented to by each of the several boards of directors, which assents may or may not be obtainable.

The commission, desirous of carrying out the instructions of Congress to further consolidation, is likely to be very loath to take the responsibility for a failure of such an important transaction, unless there is a very good reason. The problem before the commission naturally seems to divide itself into three parts:

1. Has the New York Central as a corporation any interest in the Nickel Plate or is there genuine competition between these two corporations?
2. Is the proposed consolidation in the interest of the public in general, irrespective of minor local questions?
3. Are the proposed terms of the consolidation plan just to all parties concerned?

After all the straw is thrashed over, the commission by the logic of events is bound to decide that whatever may have been the relation in the past, there is now genuine competition between the Nickel Plate and the New York Central, and that the complaint of the minority stockholders about the proposed terms of consolidation, is a case for a court of equity and not for the I. C. C.

The majority of the stockholders of the different companies have voted on the terms and have accepted them, and it is not up to the I. C. C. to go behind the decision of the majority. Neither is the question of fair terms for stockholders related to the broad public interest. It is up to the commission to deal with the underlying question as to the advisability of consolidation in the interest of the public and for the courts to deal with equities and the rights and wrongs of majority and minority stockholders.

Consolidation Wanted

The Interstate Commerce Act in one section instructs the commission to bring out a plan of consolidation under which the railroads of the country are to be merged into a limited number of systems. In another section, the commission has authority to permit the acquisition by control or lease of one company by another. The commission would undoubtedly prefer not to permit leases to be made which would ultimately interfere with the merger plan. On the other hand, it is anxious to carry out the mandate of Congress to bring about quickly a consolidation of the railway system of the United States into a limited number of systems.

I believe that unless competitive railroads or large shipping interests will prove to the satisfaction of the commission that the proposed Nickel Plate plan is not in the interest of the public, permission for these leases will be granted; though possibly with some modifications of some of the terms. I do not believe that the local opposition of the various communities will cut very much figure because the case they present as a rule, is short-sighted or very one sided. There is, for example, the opposition of the state and ports of Virginia, on the theory that the greater Nickel Plate will take business away from the Hampton Roads ports, to the port of New York. Looking into the future, it appears obvious that the port of New York will handle less and less of the heavier commodities, which will seek an outlet to a less congested port, nearer to the interior and with a somewhat lower freight rate, which means Hampton Roads.

As to the variety of questions asked and the breadth of ground covered by the hearings in the Nickel Plate case, it is important to remember that the commission is the guardian of the public interest, not only in this particular situation, but in all situations affecting interstate transportation. If any wrong has been committed in the way of improper profits to any particular interest, or improper treatment of other interests, such facts ought to be brought to the public's knowledge. The facts as developed must speak for themselves, even if the commission is unable to deal with some of them, under the power granted to it by Congress. In other words, if we are going to have consolidations of railroads, they must be brought about in the best possible manner without undue profits to anyone and without burdening the public with any undue capitalization.

While, as stated above, I believe the proposed creation of the greater Nickel Plate System will be authorized in principle by the commission, I also feel convinced that the commission will keep fully in mind that part of the law, under which all sections of the country and all the people, are to get adequate transportation service. This means making the necessary provisions that the so-called "short lines" will be included in the consolidation and that the people dependent on these short lines will be permanently assured of adequate transportation facilities. The commission is not likely to permit the large companies simply to accept the benefits of the desire of Congress for consolidation and at the same time avoid the

burden of taking over some of the weak lines. Quite probably a certain number of short line railroads, largely dependent on the greater Nickel Plate lines for their connection, will be allotted to the Nickel Plate System. I mean by that, that the officials of the Nickel Plate System must agree to take over these lines at a fair value and if they cannot agree with the security holders as to what constitutes a fair value, then they are to agree to abide by the decision of some arbitrators, which will most likely be the I. C. C.

While the commission has not the right under the law to force such a consolidation, it has a legal right to fix divisions of freight rates between the strong and weak roads in such a manner that the weak lines will earn a fair revenue; this is in effect the right to fix values.

The St. Paul Situation

Some time early in the fall, Commissioner Cox, who has been delegated by the full commission for that purpose, will commence to hold hearings in Washington, Chicago, and other western points, on all aspects of the Chicago, Milwaukee & St. Paul situation. Assertions have been made that the receivership was unnecessary, that the property was mismanaged, that there was dishonesty in the construction of the Puget Sound extension, etc. All the security holders claim that the rate structure is too low and that the property has not been permitted to have adequate income under the rates prescribed by the commission. It is also claimed that the Panama Canal has greatly hurt the company. The commission also has before it the Kuhn-Loeb-National City Company plan of reorganization, which it must approve under the law, before it can be effectuated. As in the Nickel Plate case, the commission is anxious on its own account and for all the security holders and the public, to get as much light on every phase of the situation as may possibly be obtained.

Examiners for the commission have already investigated many phases of the St. Paul situation and no doubt during the hearings many new points will come up and all kinds of questions will be raised in connection with the facts already developed. Furthermore, dissatisfied security holders of all shades of opinion will bring a variety of complaints, most of which will undoubtedly be as the lawyers say "incompetent, irrelevant and immaterial." The commission's investigation is intended to develop the facts as they actually are, so that nothing knowable may remain hidden.

The banking firm which is opposing the reorganization plan formulated by the bondholders and stockholders committees, has circularized a very interesting analysis of the rate structure and is certainly doing a most excellent and constructive work in bringing before the commission, the security holders and the country at large the inadequateness of the northwestern rate structure. It is my belief that after all the old and possibly some of the new straw is thrashed over in the St. Paul situation, no new facts of any real importance will be developed.

Freight Rates in the Northwest

The commission cannot help but find that the rate structure in the Northwest is too low and it will therefore be up to the commission to do something constructive to help not only the Chicago, Milwaukee & St. Paul security holders but those of all other properties in the northwestern states. The remedy is not a simple one. Congress at its last session passed what is known as the Hoch-Smith resolution, in accordance with which the Interstate Commerce Commission is to investigate the freight rate structure in the United States and is to

readjust it, bearing particularly in mind the needs of agriculture. This resolution does not prohibit the raising of rates on agricultural products, but it contains a distinct admonition not to do so.

Freight rates in the Northwest cannot be advanced without a corresponding advance in the Middle West and Southwest. The carriers in the Southwest which have the advantage of lower operating costs in the way of cheaper fuel, less adverse weather conditions and a larger proportion of profitable freight, are doing relatively well, though even there, they are not getting the full return of $5\frac{3}{4}$ per cent on the book value of their property, which unquestionably is much below the present real value. The Western carriers have asked for an advance of 11 per cent in freight rates. Much as the commission would presumably like to grant this request, it must be handled as part of the general rate investigation—that is, in connection with the Hoch-Smith resolution, above referred to. This investigation is such a large order, that it would not be at all surprising if the commission will report back to Congress that this particular job will take several years and require an extra corps of examiners, etc.

There are literally millions of different freight rates affecting every conceivable commodity from abrasives to zylonite between all points in the United States. If the freight rate on any particular commodity is changed between any of the points, practically every other point in the country is more or less affected and every producer, dealer and large consumer in that community will want to have a hearing either by himself, by his trade organization or his chamber of commerce and maybe all three of these and then by his representative in Congress. Imagine the time consumed and the flow of words!

The Interstate Commerce Commission has called for the co-operation of the state railroad commissions in this matter. While this compels the states to share in the responsibility of the rate structure, it will probably increase the work to be done, because the state commissions will undoubtedly endeavor to adjust rates in the particular interest of their citizens. This is where some more of the riot of selfishness comes in.

The Potter Plan

Mark W. Potter, former Interstate Commerce Commissioner and now one of the receivers of the Chicago, Milwaukee & St. Paul, has proposed a most ingenious plan of "quick aid to the injured" which would help the northwestern railroads. His suggestion is in effect as follows: That pending a general rate investigation, all the rates in the western territory should be advanced 5 per cent. Based on 1924 freight earnings, this would produce additional revenue of about \$82,000,000. The aggregate net earnings of the roads in the western territory have been \$181,000,000 below the amount necessary to pay $5\frac{3}{4}$ per cent interest on their tentative value. The amount produced by the proposed increase, therefore, would be only about 45 per cent of this deficiency. Mr. Potter proposes that this \$82,000,000 should be divided among the various roads in proportion to the deficit which each bears to the total deficiency. For example, the deficiency of the Chicago, Milwaukee & St. Paul below $5\frac{3}{4}$ per cent is 12.76 per cent of the whole. It would be necessary for the St. Paul to get additional revenue of about \$23,000,000 in order to earn $5\frac{3}{4}$ per cent on its book value. Under the Potter plan, this road would receive about \$10,500,000 or roughly one-eighth of the increase collected by all the roads. A strong western road, like the Atchison, Topeka & Santa Fe would receive only about \$2,000,000, increasing its present net return of 5.25 per cent on its book value to 5.48 per cent. The

Potter plan proposes to give to each company according to its needs. This plan might be considered by the Interstate Commerce Commission separately and ahead of the Hoch-Smith investigation. If agreed to, it would give quick aid to the suffering companies.

Section 5, paragraph one of the Interstate Commerce Act gives the commission the power to pool freight earnings of competing railroads and divide between them the aggregate or net proceeds of their earnings, or any proportion thereof, etc. "if assented to by the carriers involved." It may be possible to get all the carriers in the western territory to agree to this plan, because they would all be benefited to some extent, but this is by no means certain. The proposed pooling of these earnings is called "communistic" by many railroad men and it is feared it may lead in the direction of government ownership. Be this as it may, the Potter plan, as suggested, "is quick aid to the injured."

While the agricultural sections have been more prosperous in consequence of the good crops of 1924, there appears to be at present a very large wheat crop coming along in Canada and if wheat should decline substantially below the present price level, there will be much resentment against an advance on freight rates on wheat.

The most unprofitable rates are probably those on live stock, and still the live stock people are shouting the loudest for lower rates. They point to the fact that their rates per 100 lb. are very much higher than on grain, but overlook the fact that a carload of live stock contains on an average only 25 per cent as many tons as a carload of grain. Furthermore, they also ignore the necessary empty return haul of live stock cars and the additional expenses connected with the movement of live stock in the way of watering stock, rapid service, guaranty of punctual delivery, etc.

If the rates on Pacific Coast forest products which bring a very narrow margin of profit, are advanced but 5 per cent a greater tonnage may seek the Panama Canal route. Similarly an advance in rates on merchandise may mean that motor trucks will cut further into railway earnings. Like every apparent simple problem in life, the rate problem becomes much more complex as you get closer to it.

Another problem arises in connection with this proposed 5 per cent increase which is to be pooled—that is, as to the collection of it from the various carriers. The suggestion has been made that instead of advancing each separate freight rate 5 per cent that a surcharge or rather a charge by the possibly more euphonious name of a "deficiency charge" be added to every freight bill and that this 5 per cent be immediately paid over to the order of the commission like the war tax on passenger earnings was paid over to the government. This may be feasible.

Altogether the Potter plan, simple as it is, raises many problems which the minds of eleven men with a keen sense of their responsibility, are not likely to co-ordinate in very short order. The further suggestion has been made that instead of only pooling the earnings of the western roads, the 5 per cent advance of freight rates be ordered all over the country and that the surplus accruing to the more prosperous roads in the East and South should be paid over to the suffering roads in the West. Under this plan some of the roads in the East would not get any benefit at all from increased freight rates, but would have to pay over the entire increase into the pool. Unquestionably, these companies will object and carry their objections to the court of highest resort. Action in this matter is hardly likely to be taken until after Congress meets and it is not at all impossible that at that time Congress may amend the law by striking out the limiting words "if

assented to by the carriers involved." Even then, some of the carriers would probably insist on bringing this case to the courts in the belief that they are not getting an adequate return. It might be desirable to permit all the carriers to retain a percentage of the additional revenue, say from 10 per cent to 20 per cent in order to avoid this litigation.

The commission before permitting the pooling of earnings must also take into consideration that feature of the present law known as the "recapture clause" which provides that one-half of the net earnings over and above a fair return are to be paid over to the government. If the commission permits the pooling of earnings, it would in effect almost annul the recapture clause, which is just as much a part of the law as the fair return clause.

Again the question arises whether a 5 per cent increase in freight rates will really produce a 5 per cent increase in gross earnings and a corresponding amount in net earnings. There is also the question whether the agricultural interests will consent to such an increase. The commission, anxious as it is to do full justice to the carriers, is also compelled to harken to the sentiment of Congress which as expressed in the Hoch-Smith resolution, is opposed to an advance in rates on agricultural products.

In addition thereto, another advance of 4 per cent is required under the present law in order to bring up the earnings to a $5\frac{3}{4}$ per cent basis of the present value of the properties. The railroads of the country at present are earning about \$250,000,000 less than they are entitled to at present. This would mean a total advance in their rates of about 14 per cent.

Valuation

The commission is proceeding rapidly with this valuation work, having published within 30 days about 200 valuations. The most important is the revaluation of the Southern Railway System, which is totally unsatisfactory to that company. This valuation includes or rather deducts for depreciation a sum of \$62,000,000. I believe the railroad company's claim to be justified that this item of depreciation is theoretical on a property which is properly maintained. There is no such thing as a new railroad except in theory; no railroad is completed as a whole at any one time—its ties are constantly depreciating from the action of the elements as well as from the wear and tear of traffic. The same remark applies more or less not only to timber but even to steel and cement structures and to equipment. The property of a railroad company which is fully maintained is steadily getting better

through settling of roadbed and progress of the art, by improvements of structures and equipment. A railroad as a going concern properly maintained has no depreciation. Furthermore, all properties are being valued on a basis of July, 1914, prices.

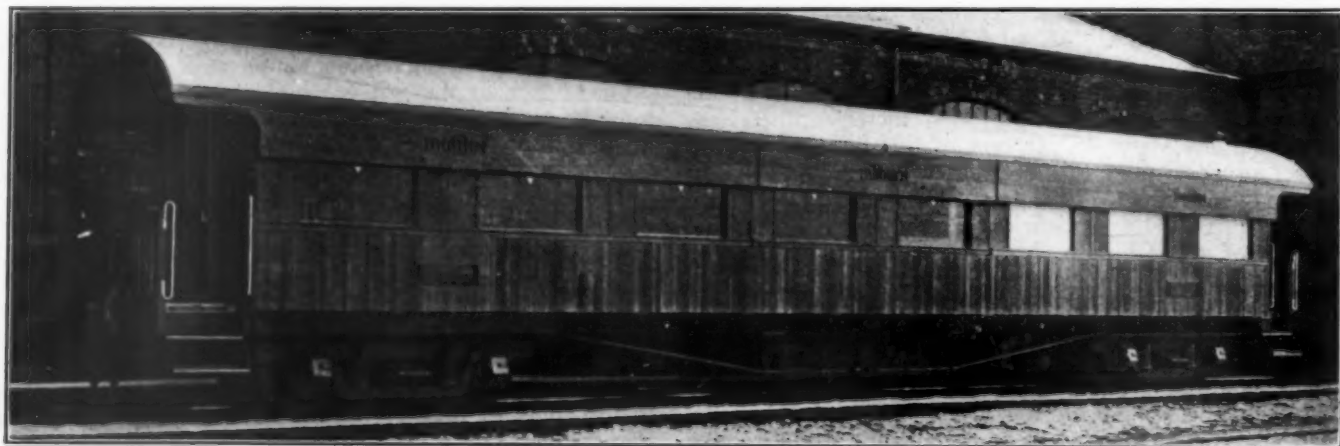
Congress has decided that public utility companies are entitled to earn a fair return on their present fair value. It is generally admitted that the present cost of reproduction is at least 50 per cent higher than it was in 1914. The commission is now visualizing this fact and to values which are now being published the following statement is attached: "The estimates of cost of reproduction covered by this report are based upon what is referred to herein as the 1914 level of prices, while the present values of the common-carrier lands covered by the report are based upon the fair average of the normal market value of lands adjoining the adjacent to the rights of way, yards and terminals of the carrier, as of valuation date. This discrepancy will be removed when the commission adjusts to later dates, in accordance with the requirements of the valuation act, the final value herein reported."

When valuations are finally completed and probably even before the Supreme Court has decided on the justice of the depreciation charge, the Interstate Commerce Commission is bound to admit and grant a physical valuation certainly not less than one-third above the 1914 valuation. This would mean that the companies as a whole are entitled to earn $5\frac{3}{4}$ per cent on a valuation one-third in excess of the present valuation. The companies at present are entitled to earn $5\frac{3}{4}$ per cent on a tentative valuation of approximately \$22,000,000,000, or about one and one quarter billion dollars.

In order to produce an additional net revenue of one-third more, rates would have to be advanced so as to produce a gross increase of approximately \$420,000,000.

All of this proves that the commission has many complex problems, which the man in the street does not at all visualize and which most people, who have axes of their own to grind, refuse to consider.

With all these problems the commission is doing much more good work than the public realizes. For example, lately through its mediation and that of its examiners, a long standing dispute as to division of freight rates between the lines west and east of the Missouri river, has been settled. The lines east of the river are to receive $16\frac{1}{2}$ per cent of the through rate instead of 15 per cent. This arbitration probably involves not less than \$3,000,000 of revenue annually. Many other knotty problems are being worked on and are steadily approaching settlement.



Dining Car Built for the Siamese State Railways by the Cravens Railway Carriage and Wagon Co., Ltd., Darnall, Sheffield, England

General News Department

In a hearing on grain rates on western trunk lines to Colorado, Kansas, Missouri, Nebraska, Oklahoma and Wyoming, the Interstate Commerce Commission held that the proposal of the carriers to restrict the application of joint rates on grain from certain primary markets such as the Twin Cities, Chicago, Peoria, St. Louis territory and intermediate points between those markets and the Missouri river to the states west thereof, mentioned above, were not justifiable. The rates as proposed would apply only on grain originating beyond the primary market. The purpose of the proposed rate was to utilize combinations based on the Missouri river and would have the effect of increasing the rates on traffic originating at Twin Cities and at most intermediate points. It was further intended to increase the rates on local shipments from Chicago and the other primary markets mentioned in the same amount that the rates from the Twin Cities would be increased.

Central Railway Club Outing

The Central Railway Club, Buffalo, N. Y., will hold its annual outing at Dold's Grove, Wheatfield, N. Y., on July 25. Those planning to attend will meet at the Lehigh Valley passenger station, Buffalo, at 9:30 a. m. (daylight saving time), where transportation to the outing grounds will be provided.

General Foremen to Meet in September

The twentieth annual convention of the International Railway General Foremen's Association will be held at the Hotel Sherman, Chicago, on September 8-11. Advance copies of the topics to be discussed will be available by August 1. As usual, railway supply manufacturers will have an exhibit in connection with the convention.

Unveiling of Memorial Tablet on

Alfred H. Smith Memorial Bridge

On July 14 a tablet in memory of the late Alfred H. Smith, president of the New York Central, was unveiled on the Alfred H. Smith Memorial Bridge over the Hudson river at Castleton, N. Y. The building of the bridge and the Castleton cut-off were begun by President Smith and the bridge was named in memory of him. President P. E. Crowley, of the New York Central, opened the unveiling ceremonies. He was followed by C. C. Paulding, assistant vice-president, and the Rev. Dr. F. N. Clendenin. Miss Charlotte Smith, granddaughter of President Smith, unveiled the tablet.

New York's Suburban Transit Plans

Members of the New York Suburban Transit Commission and the North Jersey Transit Commission, both of which are making plans for the development of rapid transit communication between New York City and the outlying suburban districts, met jointly in New York on July 9 to co-ordinate their plans. These plans provide for a loop subway intersecting all the New Jersey railways and running from the Battery in Manhattan, northward to about Fifty-seventh street with tunnels under the Hudson river at either extremity connecting with New Jersey. Another new subway would be constructed on the east side of Manhattan Island which would cross under the East river to Brooklyn and extend to Jamaica, Queens. Still another line would extend from the Battery, northward to 149th street, the Bronx, which would give a connection for suburban trains of the New York Central, New York, New Haven & Hartford and the New York, Westchester & Boston. The plans provide for the operation of the railroads' suburban trains in these subways. The total project would cost approximately \$680,000,000.

Further Extensions of Time for

Train Control Installation

The Interstate Commerce Commission has granted further extensions of time, on petitions filed by the railroads, for the fulfillment of its order of June 13, 1922, requiring the installation of automatic train control. The date originally set was January 1, 1925, but the commission in most instances granted extensions to July 1. It has now extended the time to January 1, 1926, for the New York, Chicago & St. Louis and the Louisville & Nashville, to October 31, 1925, for the Atlantic Coast Line, and to July 1, 1926, for the Chicago, Indianapolis & Louisville.

On petition of the Kansas City Southern for relief from compliance with the two train control orders of June 13, 1922, and January 14, 1924, the commission has suspended the effective date of the second order in so far as it applies to this company and has postponed the effective date of the first order from July 1, 1925, to July 1, 1926.

A hearing on the application of the Great Northern for relief from the second order was held at Washington on July 13 before Examiner Mullen.

New York Railroad Club Outing

The New York Railroad Club held its second annual outing, or mid-summer festival, at the New York Athletic Club, Travers Island, and at the Winged Foot Golf Club, Mamaroneck, N. Y., on Thursday, July 9. Over 200 golfers went to the golf club early in the morning. A special train left New York for Travers Island at noon. The Long Island Railroad Band played en route and headed the procession in the march from the station at Pelham Manor to Travers Island. A buffet luncheon and dinner were served at the clubhouse and the party returned to New York on a special train late in the evening.

Among the various forms of relaxation which were a part of the outing were a number of competitive sports in which prizes were awarded. These included a golf tournament at the Winged Foot Golf Club and a tennis tournament and track meet at Travers Island in the afternoon. A variety of prizes was offered in the golf tournament covering low gross, low net, "kicker's" handicap, and others, the winners of prizes being as follows: D. D. Cooke, American Locomotive Company; C. E. Bryant, Johns-Manville, Inc.; G. H. Weiller, American Locomotive Company; H. M. Behre, Surety Engineering Company; L. O. Smith, Columbia Machinery Works; C. G. Melvin, Galena Signal Oil Company; W. J. Fripp, general manager, New York Central; C. C. Hubbell, purchasing agent, Delaware, Lackawanna & Western; C. L. Bardo, formerly general manager, New York, New Haven & Hartford; Frank Hedley, president, Interborough Rapid Transit, and A. N. Dugan, Bronze Metal Company.

The results of the track meet were as follows: 100-yd. dash won by E. Dunbar, Pennsylvania System, 10 $\frac{3}{4}$ sec.; 220-yd. dash won by S. Marion, Erie Railroad, 24 $\frac{3}{4}$ sec.; first 440-yd. race won by H. Higgins, Safety Car Heating & Lighting Company, 54 sec.; second 440-yd. race won by J. F. Mitchell, Interborough Rapid Transit, 54 sec.; 880-yd. run won by G. C. Gault, Safety Car Heating & Lighting Company, 2 min., 5 $\frac{1}{4}$ sec.; one-mile relay race for company teams won by the Safety Car Heating & Lighting Company, 3 min., 30 sec., with the Erie, second, and the Interborough team, third.

In the tennis tournament, the singles were won by R. P. Spooner, American Abrasive Metals Company, with Harry Doyle, runner-up. The doubles tournament was won by Harry Doyle and C. C. Willetts. Other special features were a soft ball baseball game between the railroad men and the railway supply representatives, swimming and quoits. Scott Donahue was chairman of the General Committee. J. S. Doyle, superintendent of equipment, Interborough Rapid Transit Company, was director of sports and entertainment.

Traffic News

The Bureau of Railway Economics has completed a study of the relationship of prices paid the farmer for corn and oats to transportation costs. The study, which covers a period of 20 months from August, 1923, to March, 1925, shows that farm prices on corn and oats fluctuated widely during the period, while freight rates were practically stationary. Fluctuations occurred between different kinds and grades at different points and were found to be many times the freight rates to representative markets. It was shown that since freight rates were practically stationary they were not responsible for the wide fluctuations in prices, either upward or downward.

Western Roads Apply for Rate Increases

The 73 railroads operating in the western and mountain-Pacific groups which filed a petition with the Interstate Commerce Commission on April 28, requesting it after due investigation to issue the necessary order or orders which will result in yielding to the carriers operating in this group a net rate of return of not less than 5¾ per cent, have now filed petitions with 26 state railroad commissions asking for similar increases in intrastate rates. These petitions are filed in view of the impracticability of maintaining a different level of rates applicable to interstate transportation than on corresponding intrastate transportation and in order that unlawful discrimination may be avoided.

The state commissions with which petitions have been filed are Arizona, Arkansas, California, Colorado, Idaho, Illinois, Iowa, Kansas, Louisiana, Michigan, Minnesota, Missouri, Montana, Nebraska, Nevada, New Mexico, North Dakota, Oklahoma, Oregon, South Dakota, Texas, Utah, Washington, Wisconsin, Wyoming.

Canadian Rate Case Expedited

In an important memorandum and in two general orders issued at Ottawa on July 9 the Canadian Railway Board took the first steps toward carrying out the instructions contained in the legislation passed by Parliament in June providing for an equalization of freight rates throughout the Dominion. One order issued calls for the filing by the railways within 15 days of their east-bound rates on grain and flour from the Western provinces, on the level of the Crow's Nest Pass Agreement, but with the stipulation that there must be no discrimination between points in the prairie provinces in the application of those eastbound grain and flour rates. The other order calls for the restoration within 15 days of the freight rates which were in force on July 6, 1924, which means the suspension or abolition of the Crow's Nest Pass Agreement westbound commodity rates.

After a recital of the principal part of the Order in Council of June 5, in which the Federal Cabinet laid the basis for the legislation submitted to Parliament and which body passed the bill without much debate, the Dominion Railway Board in the memorandum issued with the two general orders above cited, has the following to say:

"The Board of Railway Commissioners for Canada, in order to effect and carry out as expeditiously as possible the directions of the Order-in-Council, keeping in view the specific instructions contained therein, hereby requests the public, both as individuals and organizations, as well as provincial, municipal and civic authorities, boards of trade, chambers of commerce; trade, industrial and labor organizations; firms, companies and individuals, including shippers and carriers, as follows:

"(a) To submit to the board any statement of facts under which it is claimed that unjust discrimination, or undue preference, or unfair treatment exists in connection with the rates of freight charged upon any commodities; or in the treatment of any person, city or province by any railway company;

"(b) To set forth the grounds upon which it is claimed on behalf of the Maritime Provinces that they are entitled to the restoration of the rate basis which they enjoyed prior to 1919;

(c) To make submission as to the encouragement of the movement of traffic through Canadian seaports.

"It is recommended that all submissions filed pursuant to the

above suggestions be printed or legibly typewritten, and at least 20 copies thereof be forwarded to the secretary of the board at Ottawa, not later than the 15th day of August, 1925. All statements and memoranda so filed will be open to public inspection at the office of the secretary of the board. Persons inspecting the same will be permitted to take copies thereof, and to reply thereto by statement filed with the secretary of the board not later than the 1st day of September, 1925. Not less than 20 copies to be filed. All memoranda and statements filed in pursuance of the above are for the consideration of the board in the matters involved, being intended as an aid and guidance to the board in its investigation, but are not to be received in lieu of evidence upon the matters therein dealt with."

Wheat Production for 1925

L. M. Betts, manager of the closed car section of the Car Service Division, A. R. A., has sent to the railroads a statement showing details of the July 1 forecast of the Department of Agriculture covering wheat production for the current year. Summarized the showing is as follows:

	Estimate as of July 1, 1925	Reduction from 1924 June 1, 1925	Estimate as of June 1, 1925
Winter wheat crop, bu..	403,851,000	186,186,000 or 31.5%	407,156,000
Spring wheat crop, bu..	275,739,000	6,897,000 or 2.5%	253,729,000
	679,590,000	193,083,000 or 22.1%	660,885,000

"It will be noted," Mr. Betts says, "that as compared with the estimate for June 1 there has been a slight further decrease in the expected outturn of winter wheat. The only principal states showing improvement in the month were Ohio, Indiana and Missouri, while Kansas, Oklahoma and Texas show further material reduction. Private advices from that section, however, take a more hopeful view of the situation. Local forecasters have estimated that the Texas crop will be as high as eight million bushels and Oklahoma as high as thirty million.

"The government figures confirm private advices that the spring wheat crop will be nearly equal to last year. The report for July 1 shows a marked improvement in the states of principal production—North Dakota, Montana, Minnesota and South Dakota. The weather conditions in the northwest have continued favorable, and many reliable local authorities believe that the final returns will show a crop of spring wheat fully equal to that of last year.

"Early wheat threshed in Texas and Oklahoma is moving north to interior mills and elevators. Present prospects are that export shipments via Gulf ports will be light, at least during the early part of the season. Reports from the territory now shipping indicate that while initial shipments are fairly heavy, the incentive for early selling does not exist this year to the extent that it did last year, and there are those who feel that there is more of a tendency on the part of farmers toward orderly marketing.

"A record crop of corn of over three million bushels is forecast and all conditions are favorable. The oats crop will be large but somewhat below the average, except in the northwest where growing conditions have been favorable. Barley is above the average.

"The July 1 report indicates a marked reduction in the season's crop of white potatoes. While acreage is 94.3 per cent of last year, the forecast is for a crop only 77 per cent of last year. All the states in the heavy production territory from Maine through New York, Michigan and Wisconsin to Minnesota show a substantial reduction. Conditions in Idaho and Colorado are favorable and an increase in production is forecast.

"The box car situation as of June 15 is reflected by the attached statement. Summarized, it shows:

"A uniformly satisfactory location of cars in all sections of the country. Box cars on western roads equal to 96.1 per cent of ownership, with an even higher ratio on central western and north-western lines, where the grain movement is getting under way.

"Out of every thousand cars owned by western roads, 684 are in owners' possession, which is the highest ratio ever attained even in periods of light traffic.

"The only box car supply problem this season will be the western agricultural products movement. To insure another year of transportation service unmarred by box car shortage requires:

"(a) In the west, prompt return of cars owned by neighboring lines, with particularly effective enforcement of the 'junction rule.'

(b) In the east and south, return of western cars to home lines without any delay. They should be used for home route loading if immediately available, but not otherwise."

Commission and Court News

Interstate Commerce Commission

The Interstate Commerce Commission has suspended from July 15 until November 12, 1925, the operation of certain schedules as published in joint tariff—Agent R. H. Countiss' I. C. C. No. 1147, Agent B. T. Jones' I. C. C. No. 1640, Agent Frank Van Ummeresen's I. C. C. No. 43, and Agent H. Wilson's I. C. C. No. A-140, which propose to restrict westbound transcontinental traffic moving via the Union Pacific, Ogden, Utah, and the Salt Lake & Utah to Pacific Coast states so that such traffic could not be routed via the Salt Lake & Utah as an intermediate carrier, under the through joint rates.

Rates on Deciduous Fruits

from California Found Reasonable

The Interstate Commerce Commission has issued a decision in the case instituted by a complaint filed by the California Growers' & Shippers' Protective League that the rates on fresh deciduous fruits other than apples, in carloads, from California points to eastern transcontinental groups are not unreasonable or unduly preferential. The complaint had asked that the rates of \$1.62 to Group J and \$1.73 to the other eastern transcontinental groups be reduced to \$1.44, the basis in effect prior to the general increases on August 26, 1920. The report by Commissioner McManamay says in part:

The record in this case shows affirmatively that the deciduous fruits here under consideration are moving freely under the present rates, and that the volume of movement has increased greatly during recent years. Complainant's prediction that unless lower rates are secured there will be a substantial reduction in tonnage may not be realized. The prediction is based upon the unfavorable financial return to the producers at the time of the hearing, and for a period prior thereto. But this record does not justify the conclusion either that this condition is likely to continue or that it is due in great part to the rate structure. It is suggested in the record that the unfavorable financial results are chargeable in large measure to overproduction, to inability of the eastern market to absorb the supply. If this is so, economic laws, and not the rate adjustment, will sooner or later bring about a reduction in the movement, and such reduction would be desirable. The record herein does not show the comparative levels in market value of the various commodities over a reasonable period of years.

Complainant's showing with respect to the percentage increase in the rates on this traffic over the rates in effect immediately prior to the general increase of June 25, 1918, is to be viewed in the light of the fact that a few years prior to 1918 the rates were made uniform by reductions to the lowest rate, \$1.15. The reductions to points east of Chicago were from rates as high as \$1.50.

The relationship of the general level of the rates on other traffic to the level prior to June 25, 1918, which was affected by water competition or other conditions different from those relating to the rates assailed, is not entitled to controlling weight in the determination of reasonable rates, on the traffic under consideration. While the operating returns of the principal carriers of this traffic have shown considerable improvement in the last few years, the record does not indicate that as a whole they are yet earning as much as 5.75 per cent. The volume of the movement and the remarkable increase therein tend to indicate that the rates are reasonable rather than unreasonable.

Court News

The federal district court for Missouri, Western District, holds that, under Interstate Commerce Act, demurrage and other terminal charges must be stated separately in tariffs. Actions for reparation for discriminatory demurrage charges cannot be maintained in the absence of an appropriate finding and order of the Interstate Commerce Commission. In determining whether an order of the commission shall be suspended or set aside or whether a railroad regulation, such as a tariff is within the scope of the railroad's authority, the power to make the order or schedule, and not its wisdom, is the test. The published tariff, without more, is due notice to all shippers of a demurrage charge therein. Reasonable classification of freight may be made for the purpose of demurrage charges. A demurrage or storage charge for cars of lumber held for reconsignment is held not discriminatory as against lumber dealers, the charge, so far as appeared in the case, being "imposed under authority of law, not for the purpose of inflicting a burden upon any class of dealers, but for the paramount purpose of affording greater facilities for transportation to the entire business public."—Turner, Dennis & Lowry Lumber Co., v. Chicago, M. & St. P., 2 Fed. (2nd) 291.

Labor News

Submissions on behalf of the maintenance of way employees of 16 railways have been filed with the Railroad Labor Board asking a general wage increase for all maintenance of way employees of five cents an hour. Among the 16 roads are some of the largest in the country, including the Pennsylvania, the New York Central, the Wabash, and others. As similar submissions are still coming in from other roads it is apparent that a campaign for wage increases for maintenance of way employees throughout the country is under way. After all the submissions have been received the Labor Board will set a date for the hearing which will probably be in the latter part of August or the first of September after the summer vacations of the board members are ended.

In a decision on the application of the Order of Railroad Telegraphers for wage increases and changes in the working rules of employees it represents on the Atlantic Coast Line, the Jacksonville Terminal, the Nashville, Chattanooga & St. Louis, the Savannah Union Station, the Seaboard Air Line, and the Toledo, Peoria & Western, the Labor Board refused to grant any wage increase except to certain telegraph employees of the Savannah Union Station to whom an increase in wages of six cents an hour was granted. The disputes involving the Atlantic Coast Line, the Seaboard Air Line, and the Nashville, Chattanooga & St. Louis were remanded for further negotiation. In its opinion on these three cases the board pointed out that previously, in decisions 2025 and 2115, general wage increases had been denied but that it had been admitted that there might be some justification for local increases to eliminate inequalities then existing in the wages of comparable employees. Although the employees claimed that the new request for increases was to eliminate such inequalities, the board held that the increases requested are for practically every employee, constituting a horizontal increase in rates which is unjustified. The request of the employees for a rule providing for annual vacations with pay was also denied.

Rate of Pay for Emergency Work

A bridge and building gang on the Great Northern was called out for emergency work at a sink hole at 9 p. m., and required to work continuously until 7 p. m. on the following day. They were paid at the rate of time and one-half from 9 p. m. until 8 a. m. and straight time for the remainder of the tour of service, it being the contention of the railroad that this portion of the time employed fell within their regular service period. The employees, represented by the United Brotherhood of Maintenance of Way Employees and Railway Shop Laborers, contended that they should have been paid time and one-half for the entire period from 9 p. m. until 7 p. m. the following day. The decision of the Labor Board was that Rule 51 of the maintenance of way agreement applied in this case, sustaining the claim of the employees.—Decision No. 3678.

Deduction of Wage Payments

The Railroad Labor Board has held that the Southern Pacific was within its rights in deducting the sum of \$15 a month, for the period from January, 1923, to April, 1924, from the wage payments made to manager-wire chiefs, and telegraphers at Bakersfield, Cal., the employees being represented by the Order of Railroad Telegraphers. The deduction was made on account of the failure of the company to apply Decision No. 1448, effective January, 1923, the reduced rates ordered in the decision not being placed in effect until April, 1924, when the mistake was discovered. In its opinion, the board said that the evidence indicated that the instructions of the superintendent in regard to the application of Decision No. 1448 were complied with as they affected telegraph service other than employees in the general telegraph office at Bakersfield. The board also held that it is reasonable to grant to a carrier the same right often requested and granted to the employees, namely, the correction of errors which have affected time payments in a manner not contemplated by the rules.—Decision No. 3740.

Equipment and Supplies

Locomotives

THE ST. LOUIS-SAN FRANCISCO will repair 10 locomotives in its own shops.

THE TEXAS & PACIFIC is inquiring for 10 eight-wheel switching locomotives, 10 Santa Fe type locomotives and 5 Mountain type locomotives. The authorization for this equipment was reported in the *Railway Age* of July 4.

Freight Cars

THE SEABOARD AIR LINE is inquiring for 30 caboose cars.

CONEMAUGH & BLACKLICK.—See Bethlehem Steel Corporation.

THE CANADIAN NATIONAL will build 25 caboose cars in its own shops.

THE ST. LOUIS-SAN FRANCISCO will repair 2,600 miscellaneous freight cars in its own shops.

THE PAULISTA RAILWAY (Brazil) is inquiring through the car builders for 50 general service cars of about 40 tons' capacity.

THE GREAT NORTHERN has changed its inquiry for 250 general service cars, reported in the *Railway Age* of June 27, to 250 ballast cars.

THE BALTIMORE & OHIO has arranged for the construction in the railway company's shops of 100 standard eight-wheel, steel underframe, caboose cars.

THE WHITE STAR REFINING COMPANY, Detroit, Mich., has ordered 53 tank cars of 50 tons' and 10,500 gal. capacity from the Standard Tank Car Company.

THE ANDES COPPER MINING COMPANY has ordered 66, meter gage, Inglesby ore cars, of 40 tons' capacity, from the Magor Car Corporation. Inquiry for this equipment was reported in the *Railway Age* of July 4.

THE TEXAS & PACIFIC is inquiring for 750 all steel gondola cars and is also asking for alternate bids on 750 steel underframe gondola cars of 50 tons' capacity. The inquiry for this equipment was reported in the *Railway Age* of July 4.

THE CARNEGIE STEEL COMPANY is having 200 hopper cars repaired in the shops of the Pressed Steel Car Company and 200 in the shops of the Greenville Steel Car Company. The inquiry for prices on the repair of these cars was reported in the *Railway Age* of June 20.

THE BETHLEHEM STEEL CORPORATION is building 50 flat cars of 50 tons' capacity at the shops of its Cambria plant, Johnstown, Pa., for its own use and is building in the same shops 30 coke car bodies. It is also building 15 gondola cars for the Conemaugh & Blacklick Railroad.

THE BANGOR & AROOSTOOK has given a contract to the Pressed Steel Car Company for 200 steel underframes and superstructures, for single sheathed box cars, to be built in the railroad company's shops at Derby, Me. This company was reported in the *Railway Age* of July 4 as inquiring for the underframes and superstructures.

Passenger Cars

THE SEABOARD AIR LINE is inquiring for 4 combination baggage and mail cars.

THE ST. LOUIS-SAN FRANCISCO will repair 30 passenger cars in its own shops.

THE NEW SOUTH WALES GOVERNMENT RAILWAYS are inquiring through the car builders, for from 50 to 250 steel suburban motor cars, 61 ft. 6 in. long.

THE CANADIAN PACIFIC has ordered 15 express baggage cars from the National Steel Car Corporation and 15 from the Canadian Car & Foundry Company. This information has not as yet been officially confirmed.

Iron and Steel

THE GREAT NORTHERN is inquiring for 25,000 tons of rails, 5,000 tons of tie plates and 5,000 kegs of spikes and bolts.

Machinery and Tools

THE MISSOURI PACIFIC has placed an order for a 50-ton bushing press.

THE SOUTHERN PACIFIC has placed an order for a key seat drilling machine.

THE PITTSBURGH RAILWAY COMPANY has placed an order for a 1,500-lb. steam hammer.

THE CHESAPEAKE & OHIO has placed an order for an automatic punching, shearing and spacing machine.

THE CHICAGO, BURLINGTON & QUINCY has ordered one 10-ton gantry crane for use at Aurora, Ill., from the Whiting Corporation.

THE ATCHISON, TOPEKA & SANTA FE has ordered one 32-in. shaper from the Cincinnati Shaper Company and one 5-ft. boring mill from the Cincinnati Planer Company.

THE CHICAGO, MILWAUKEE & ST. PAUL has ordered one electric drop pit table for use in St. Paul, Minn., from the Whiting Corporation and one 15-ton electric traveling crane from the Milwaukee Electric Crane & Manufacturing Company.

THE CHICAGO, MILWAUKEE & ST. PAUL is inquiring for the following machine tools:

- One 90-in. journal turning machine.
- One 5-ft. 10-in. by 16-ft. car type annealing furnace.
- One 36-in. heavy duty draw cut shaper.
- Two 42-in. vertical turret lathes.
- One 3-ft. plain radial drill.
- One 1½-in. double head bolt cutter.
- One 5-ft. plain radial drill.
- Two 3-ft. plain radial drills.
- Five 3-ft. plain belt-driven radial drills.
- One steel power brake to bend No. 10 gage iron up to 10 ft. 1 in. in length.
- One 200-lb. Chambersburg self-contained steam hammer.
- One second-hand single frame 800-lb. steam hammer.
- One 1,500-lb. single frame steam hammer.
- One locomotive driving wheel lathe.
- Two ¾-in. McCabe flangers.
- One 32-in. crank planer.
- Two 14-ft. vertical bending rolls with a capacity of 1¼ in.
- One 24-in. by 12-ft. heavy duty geared head engine lathe.
- One 27-in. by 14-ft. heavy duty geared head engine lathe.
- One geared power squaring shear with 18-in. gap and a capacity to shear No. 10 gage iron up to 8 ft. in length.
- Two floor grinders with 18 by 3-in. wheels.
- Two 36-in. heavy duty draw cut shapers.
- One 16-in. by 8-ft. toolroom lathe.
- One 3,000-lb. single frame guide ram steam hammer.
- One high power rapid production turret lathe with 7½-in. hole through spindle.
- One 2-in. single head belt-driven bolt cutter.
- One 600-lb. inclined head hydraulic locomotive wheel press.
- Two 4-ft. plain radial drills.
- One belt-driven turret lathe 3¼ by 29 in. with 16½-in. swing.
- One 5 by 9 by 13½-in. gas-fired oven furnace.
- Two 8 by 20 by 30-in. gas-fired oven furnaces.
- One 14 by 30 by 12-in. gas-fired oil tempering furnace.
- One No. 3 plain inclinable belt-driven punch press, of 50 tons capacity.
- One sensitive high speed belt-driven toolroom drill of ¾ in. capacity.
- One 12 by 36-in. universal grinding machine.
- One universal belt-driven cutter and reamer grinder equipped with extension centers.
- One universal belt-driven tool grinding and shaping machine equipped with 3 by 3-in. chucks.
- One automatic belt-driven gear cutting machine to cut spur gears 36 in. in diameter, three diametrical pitch bevel gears 21 in. in diameter and metre gears 24 in. in diameter.
- One double head electric floor grinder with 12 by 2 in. wheels.
- One 21-in. belt-driven upright drill.
- One 10-in. belt-driven vertical shaper.
- One 16 by 36-in. belt-driven toolroom lathe.
- One 28-in. belt-driven shaper.
- One 3,000-lb. crane truck with 15-ft. boom and auxiliary boom including battery and battery charger.

Supply Trade News

L. J. Ferderber has been appointed assistant to the first vice-president of the **General American Tank Car Corporation**, Chicago.

Frank R. Schubert, works manager of the **Strong Ball Bearing Manufacturing Company**, Chicago, has been promoted to general manager.

The **Ajax Manufacturing Co.**, has removed the Cleveland, Ohio, office to its new plant on Chardon road near Euclid avenue, Euclid, Ohio, a suburb of Cleveland.

H. E. Passmore, formerly salesman of the Grip Nut Company at Columbus, Ohio, has been appointed sales manager of the **Davis Brake Beam Company**, Pittsburgh, Pa.

E. P. Blanchard, advertising manager of the **Bullard Machine Tool Company**, Bridgeport, Conn., has been appointed also assistant sales manager, with headquarters at Bridgeport.

The **E. L. Essley Machinery Company**, Chicago, has been appointed exclusive agent for the **Buffalo Forge Company**, Buffalo, N. Y., to sell punches, shears, bar cutters, slitting shears and beam shears in Chicago territory.

Walter T. Comley has been elected vice-president in charge of service and production, and **Adam P. Arnold**, secretary and treasurer of the **Franklin Railway Supply Company, Ltd.**, of Montreal, Canada. **Leland Brooks**, vice-president and treasurer, has resigned.

Walter Alexander, vice-president of the **Union Refrigerator Transit Company**, Milwaukee, Wis., has been elected president to succeed **Emanuel L. Philipp**. **Cyrus L. Philipp**, general agent, has been promoted to vice-president. **Lawrence C. Whittet** has been appointed assistant to the president.

Stephen Gardner has been appointed district manager, with office at 203 South Dearborn street, Chicago, of **McClellan & Junkersfeld, Inc.**, engineers and constructors of New York, St. Louis and Washington, D. C. Mr. Gardner will continue also as president of the **Industrial Engineering & Sales Service, Inc.**, of Chicago.

J. A. Roesch, vice-president of the **Steel Sales Corporation**, Chicago, has been elected president to succeed **A. D. Gorman**, president and treasurer, deceased. **F. W. Walters**, general sales manager, has been promoted to vice-president and general sales manager. **D. R. Hoffman**, secretary, has been appointed secretary and treasurer.

Charles E. Miller has been appointed representative in the Chicago district of the **Premier Staybolt Company**, Pittsburgh, Pa., succeeding **L. W. Widmeier**, resigned. The Chicago office of the company is now located at 548 Railway Exchange building. **C. S. Carter** has been appointed northwestern representative, with office at 752 McKnight building, Minneapolis, Minn.

Clark H. Minor, vice-president of the **International General Electric Company**, has been elected president, with headquarters at New York, to succeed **Anson W. Burchard**, who had been both president and chairman of the board. Mr. Burchard will continue as chairman but asked that he be relieved of some of the duties of his double position. **Loren Emery**, assistant merchandising manager of the **International General Electric Company**, has been made general merchandising manager of the company and **R. G. Henderson**, former manager, has been detailed for special promotion work.

The **Bird-Archer Company** has opened a new plant in Chicago for the manufacture of boiler water treatment chemicals. The building is of brick and steel construction and with ground owned and available will permit of a 500 per cent expansion. The locomotive anti-foaming compound department is capable with present equipment of turning out 30,000

lb. per day while the department allocated to the manufacture of locomotive anti-scaling and anti-pitting compounds in solid form has a capacity of approximately 20,000 lb. per day. Arrangements for a branch laboratory in connection with the new plant will soon be consummated.

At the organization meeting of the **Westinghouse Electric Company of Japan**, on July 15, at the Westinghouse offices, 150 Broadway, New York, E. D. Kilburn, vice-president of the new company, made the following statement: The Westinghouse Electric Company of Japan is a newly organized subsidiary of the Westinghouse Electric International Company, incorporated under the laws of the state of Delaware with a capital of \$1,000,000. The purposes of this company are to distribute Westinghouse products throughout Japan and to arrange for proper service to the users of Westinghouse apparatus in Japan. Adequate stocks will be carried; repair and other service facilities will be provided; and engineering and construction assistance will be supplied to the users of the company's products. The staff in Japan will be almost entirely Japanese. The officers of the new company are **Guy E. Tripp**, chairman; **L. A. Osborne**, president, and **E. D. Kilburn**, vice-president; **I. F. Baker** is managing director, located in Tokio.

Obituary

Richard V. Lindabury, general counsel of the United States Steel Corporation, died of apoplexy while horseback riding at **Bernardsville, N. J.**, on July 15. Mr. Lindabury was also a director and a member of the finance committee of the corporation.

Trade Publications

TREATED TIMBER.—The Protexol Corporation, New York, has issued Bulletin 40 containing a discussion of the economics of timber treatment by E. F. Paddock and in addition some demonstrations of the value of brush and open tank treatment with Protexol and Neosote, coal tar wood preservatives manufactured by that company. The bulletin is illustrated with photographs of timbers that had given long life after treatments.

FEEDWATER HEATERS.—The Superheater Company, New York, has just issued a third edition of its instruction book covering the operation and maintenance of Elesco feedwater heaters. Added features of the present edition are the sections giving operation instructions and questions and answers regarding operation. Detailed instructions covering the principle of the equipment, inspection and test, cleaning, and heater and pump repairs also are given. Two charts illustrate by means of colors the passage of steam and water through the different parts of the equipment.

SECTION GANG CAR.—Fairmont Railway Motors, Inc., Fairmont, Minn., has issued an eight-page bulletin describing the S2 and ST2 section gang motor cars. These two cars have been designed to obtain light weight to facilitate removal from the track by two men and also the strength required to carry eight to ten men. The S2 car is a single-speed car, while the ST2 has a two-speed transmission. The bulletin gives detailed descriptions of the various parts of the equipment, specifications and also photographs showing the cars equipped with various types of safety railings.

THE DANISH STATE RAILWAYS showed a deficit for the fiscal year ended March 31, 1925, according to statistics recently published. The loss amounted to 300,000 crowns (about \$50,168.40) after 5,660,000 crowns were turned over for new construction work.

AN APPROPRIATION of 300,000,000 francs for the completion of a Railway from Brazzaville, French Equatorial Africa, to the Atlantic Ocean, is provided in a bill now pending before the French Chamber. A part of this amount is to be spent on the construction of loading and discharging facilities at Brazzaville and Pointe Noire. The bill provides that all materials necessary for the execution of the work and all material necessary for the exploitation of the proposed lines which cannot be found in the colony must be of French origin and transported under the French flag. In case of proved necessity the Minister of Finance may by order authorize derogations from this rule.

Railway Construction

BALTIMORE & OHIO.—A contract has been awarded to the Pittsburgh Construction Company, Pittsburgh, Pa., for the erection of superstructures of two bridges on the line between Cincinnati and St. Louis. The new structures consist of plate girder spans, ranging in length from 40 to 97 ft. The total weight of steel work comprised is approximately 150 tons.

CENTRAL OF GEORGIA.—A contract has been awarded to the W. P. Thurston Company, Inc., Richmond, Va., for an addition to the company's passenger station at Columbus, Ga., at a cost of approximately \$40,000. The work will include new platforms and shelters. A contract for a 300-ton reinforced concrete coaling station at Albany, Ga., to cost about \$37,000 has been awarded to Fairbanks, Morse & Company, Chicago.

CHICAGO, BURLINGTON & QUINCY.—A contract has been awarded to Ernest Rokahr & Sons, Lincoln, Neb., for the construction of a passenger station, master mechanics' office building and store and oil house at McCook, Neb., to cost approximately \$200,000. A contract has been awarded to the same company for the construction of a freight and passenger station at Pawnee, Neb. A contract has also been awarded to G. A. Johnson & Sons, Chicago, for the construction of a passenger station at LaGrange, Ill., to cost approximately \$30,000, as reported in the *Railway Age* of April 4.

CHICAGO, ROCK ISLAND & PACIFIC.—A contract has been awarded to the T. S. Leake Construction Company, Chicago, for the construction of a one-story repair shop, 100 ft. by 200 ft., in Chicago to cost \$52,000.

ERIE.—The New York Public Service Commission has approved this company's plans for eliminating a grade crossing at Foote avenue, Jamestown, N. Y.

HOUSTON & NORTH SHORE.—A company of this name has been incorporated at Houston, Tex., and has obtained a charter to construct a railway from Houston to Goose Creek and Baytown, a distance of 30 miles. R. W. Franklin and Harry K. Johnson, Houston, are two of the incorporators.

ILLINOIS CENTRAL.—A contract for masonry and carpenter work on the superstructure of the shops at Markham Yard, Chicago, has been awarded to W. J. Zitterell, Webster City, Ia. A contract for the construction of a superstructure of a roundhouse and machine shop at Sioux City, Ia., reported in the *Railway Age* of June 20, has been awarded to the Grant Smith Company, St. Paul, Minn.

INTERNATIONAL GREAT NORTHERN.—Bids have been received for the construction of a suburban passenger station at North San Antonio, Tex., to cost \$37,000. The building will be of concrete and brick, with tile roof, and the project includes the development of the station grounds, platforms, driveways, etc.

MAINE CENTRAL.—The reconstruction of this company's Skunk Hill bridge at South Portland, Me., at an approximate cost of \$120,000 has been authorized and contracts for portions of the work have been awarded as follows: Substructure, grading, etc., to the Gulliver Company, Portland, Me., between \$50,000 and \$60,000; for steel work, to the Bethlehem Steel Company, Boston, Mass., approximately \$11,500.

NATIONAL RAILWAYS OF MEXICO.—A report on a survey just completed indicates that the rehabilitation of the National Railway's line would cost nine million pesos (approximately \$4,500,000). According to the report, the only part of the line which is in good condition is that between Mexico City and Laredo.

NEW YORK CENTRAL.—This company is contemplating the construction of new stations at Fordham, N. Y., and Teaneck, N. J.

NEW YORK CENTRAL.—A contract has been awarded to H. H. Sherwin & Co., Inc., New York, for the remodeling of the company's stockyards and the construction of additional platforms and paving for the handling of chickens at its Sixtieth street, New

York, terminal; approximate cost, \$110,000. A contract has been awarded to the Link Belt Company, Chicago, for the remodeling and repair of the company's unloading tower at Pier 11, West New York, N. J., approximate cost, \$30,000.

NEW YORK CENTRAL.—The Public Service Commission of New York held a hearing on July 8 on the application of this company for an order directing the elimination of four grade crossings, one each at Unionville, Guilderland Center, Fullers and Rotterdam. The State Highway Bureau was represented at the hearing and objected to the plan for the elimination at Guilderland Center and also made minor objection regarding the other projects, to most of which the railroad agreed. The project at Unionville would cost about \$114,000, that at Fullers about \$120,500, and at Rotterdam, about \$72,000. Two plans were submitted for the work at Guilderland Center, one to cost about \$72,000 and the other \$110,000.

NEW YORK, NEW HAVEN & HARTFORD.—A contract has been awarded to Henry R. Kent & Co., Rutherford, N. J., for the construction of an additional building, approximately 150 ft. by 375 ft., for its shops at Van Nest station, New York City.

NEW YORK, PITTSBURGH & CHICAGO.—The further hearing before the Interstate Commerce Commission on this company's application for a certificate authorizing the construction of a new line from Allegheny to Easton, Pa., which was adjourned to June 30, has been called off and counsel for the company and those opposing the application have agreed to submit the case without further testimony.

PACIFIC ELECTRIC.—The construction of an extension from Arrowhead, Hot Springs, Cal., to Lake Arrowhead in San Bernardino Mountains, is contemplated. The cost of the project is estimated at over \$800,000.

PENNSYLVANIA.—The Public Service Commission of Pennsylvania has ordered the elimination of the grade crossing at Market street, Marcus Hook, Pa., by the construction of an overhead bridge. The cost will be approximately \$350,000, of which three-quarters will be borne by the railroad and one-fourth by the local authorities. A contract for the curbing of Fifty-second street, Montgomery avenue and Upland Way, Philadelphia, in connection with the company's improvements at its Overbrook yard has been awarded to the Barber Asphalt Company, Philadelphia.

PIEDMONT & NORTHERN.—It is reported that this company is planning an extension from Charlotte, N. C., to Winston-Salem (about 75 miles), but J. B. Duke, who controls the road, has not officially confirmed the report.

PUBLIC BELT OF NEW ORLEANS.—The War Department has granted permission for the construction of a bridge across the Mississippi river at New Orleans, La. The proposed structure will have central spans 790 ft. long with vertical clearance of 130 ft. above mean gulf level. On each side of this, span through spans 530 ft. long will have a grade of 1.25 per cent, making a net clearance of approximately 123 ft. at shore end of each of two spans. The next spans on each side will be of deck type, 530 ft. long, and spans connecting on either side of foregoing, 335 ft. long, these also being of the deck type. The remainder of the proposed bridge on either side, which will extend back of levees, will be of steel viaduct construction.

READING.—Station improvements at Bethlehem, Pa., are contemplated, to cost approximately \$105,000.

SEABOARD AIR LINE.—This company has awarded a contract for a reinforced concrete coaling station at Baldwin, Fla., to Fairbanks, Morse & Co., Chicago. Sutton Brothers, Jacksonville, Fla., have a contract for grading and the laying of additional tracks at the same point. A contract has been awarded to C. V. York, Raleigh, N. C., for the construction of several buildings at this point.

SOUTHERN PACIFIC.—The Interstate Commerce Commission has authorized this company to extend its Lodi branch from Valley Spring station, Calif., to the north fork of the Calaveras river, a distance of 8.1 miles, at an estimated cost of \$581,202, including right-of-way.

WABASH.—The contract for the construction of a passenger station at Attica, Ind., reported in the *Railway Age* of June 27, has been awarded to Jerome A. Moss, Chicago.

Railway Financial News

ALABAMA GREAT SOUTHERN.—1924 Earnings.—Annual report for 1924 showed net income after charges of \$2,163,256 as compared with \$2,030,437 in 1923. Selected items from the income statement follow:

ALABAMA GREAT SOUTHERN		1924	1923
Average mileage operated.....		318.35	318.35
Railway operating revenues.....	\$10,093,450		\$10,853,219
Maintenance of way.....	\$1,439,706		\$1,267,688
Maintenance of equipment.....	2,084,705		2,301,856
Transportation	3,178,754		3,519,753
Total operating expenses.....	\$7,335,272		\$7,716,378
Net revenue from operations.....	\$2,758,178		\$3,136,841
Railway tax accruals.....	554,690		641,842
Equipment rents, net dr.....	\$429,078		\$124,203
Joint facility rents, net cr.....	141,967		144,750
Railway operating income.....	\$2,487,078		\$2,469,543
Non-operating income	\$331,602		\$323,467
Gross income.....	\$2,818,680		\$2,793,010
Rent for leased roads.....	\$19,451		\$19,451
Interest on funded debt.....	475,945		475,945
Total deductions from gross income.....	\$655,424		\$762,573
Net income	\$2,163,256		\$2,030,437
Disposition of net income:			
Dividends on preferred stock.....	\$253,526		\$236,625
Dividends on ordinary stock.....	587,250		548,100
Surplus for year carried to profit and loss.....	\$1,322,480		\$1,245,713

CHESAPEAKE & OHIO.—Acquisition.—This company has applied to the Interstate Commerce Commission for authority to acquire by purchase and operate the line from Seth to Prenter, W. Va., 10.05 miles, for which a certificate was recently sought by the Coal River & Eastern, one of the enterprises of the Brotherhood of Locomotive Engineers. In its decision on the application of the Coal River & Eastern the commission held that the line should be operated by the C. & O.

CHICAGO, INDIANAPOLIS & LOUISVILLE.—Six Months Guaranty.—The Interstate Commerce Commission has issued a final certificate fixing the amount of this company's guaranty for the six months period following the termination of federal control at \$1,076,515, and stating that the company has been overpaid by \$198,484 in advance and partial payments, which it is now required to refund.

CHICAGO, MILWAUKEE & ST. PAUL.—Comment on Rate Plan.—See article on another page of this issue entitled "The St. Paul Plan of Rate Relief," by J. Shirley Eaton, and article "Problems and Trials of the Interstate Commerce Commission," by F. J. Lisman.

Charles E. Hughes Retained.—Receivers of the Chicago, Milwaukee and St. Paul Railway have retained Charles E. Hughes to represent them before the Interstate Commerce Commission in the rate inquiry recently initiated by the commission and to advocate a rate increase in accordance with the plan recently proposed by the receivers.

GULF, MOBILE & NORTHERN.—Bonds.—This company has applied to the Interstate Commerce Commission for authority to issue \$2,000,000 of 5½ per cent first mortgage bonds, in lieu of a like amount of 6 per cent bonds.

INDIANA HARBOR BELT.—1924 Earnings.—Annual report for 1924 shows net income after charges of \$417,483 as compared with \$1,027,288 in 1923. Selected items from the income statement follow:

	1924	1923	Increase or decrease
Average mileage operated	116.29	119.16	—2.87
Railway operating revenues	\$10,778,697	\$11,607,333	—\$828,636
Total operating expenses	\$ 8,149,377	\$ 8,183,263	\$ 33,886
Operating ratio	75.61	70.50	5.11

Net revenue from operations	\$ 2,629,320	\$ 3,424,070	—\$794,750
Railway tax accruals	322,669	368,547	—45,878
Railway operating income	\$ 2,298,890	\$ 3,051,050	—\$752,160
Equipment rents—Net, Dr.	\$ 1,208,580	\$ 1,374,392	—\$165,812
Joint facility rents—Net, Dr.....	228,013	192,837	35,176
Net railway operating income	\$ 862,297	\$ 1,483,821	—\$621,524
Non-operating income	\$ 80,136	\$ 28,804	51,332
Gross income	\$ 942,432	\$ 1,512,625	—\$570,192
Interest on funded debt	\$ 461,585	\$ 430,980	\$ 30,606
Total deductions from gross income	\$ 524,950	\$ 485,336	\$ 39,613
Net income	\$ 417,483	\$ 1,027,288	—\$609,806

MOBILE & OHIO.—1924 Earnings.—Annual report for 1924 shows net corporate income of \$2,081,070 as compared with \$1,127,968 in 1923. Selected items from the income statement follow:

MOBILE & OHIO		1924	1923
Average mileage operated.....		1,165	1,165
Railway operating revenues.....	\$19,464,381		\$20,112,417
Maintenance of way.....	\$2,847,032		\$2,812,790
Maintenance of equipment.....	3,538,048		4,556,580
Transportation	6,746,967		7,360,709
Total operating expenses.....	\$14,290,401		\$15,837,060
Net revenue from operations.....	\$5,173,980		\$4,275,357
Railway tax accruals.....	1,062,374		981,331
Railway operating income:			
Equipment rents, net cr.....	\$305,806		\$321,894
Joint facility rents, net cr.....	267,580		272,593
Net railway operating income.....	\$3,532,155		\$2,695,009
Total non-operating income.....	121,265		152,372
Total gross income.....	\$3,653,421		\$2,847,382
Interest on funded debt.....	1,353,840		1,353,840
Total deductions from gross income.....	\$1,572,350		\$1,719,414
Net income	\$2,081,070		\$1,127,968
Dividend of 7 per cent.....	421,176		421,176
Surplus for year carried to profit and loss.....	\$1,659,894		\$706,792

NEW YORK, CHICAGO & ST. LOUIS.—Merger Hearings to Be Resumed.—The Interstate Commerce Commission has announced that the hearing on this company's unification application will be resumed at Washington on July 20. The hearing was postponed pending a decision of the commission on objections by counsel for O. P. Van Sweringen to cross-examination of Mr. Van Sweringen by counsel for the minority stockholders of the Chesapeake & Ohio as to his personal and real estate transactions before he became interested in the Nickel Plate but the announcement of the resumption of hearings was made without any reference to a decision on this point by the commission.

O. P. and M. J. Van Sweringen have filed with the commission their answer to the intervening petition of the so-called Scott committee which sought a setting aside of the commission's order of January 27, 1923, authorizing them to become directors of the Chesapeake & Ohio. In general they deny the allegations of the petition, stating that the petitioners were not stockholders of the C. & O., when the order was made, but state that they are large owners of stock in the railroads involved and submit unreservedly the question of their continued service on the board of directors to the discretion and judgment of the commission.

RUTLAND.—Tentative Valuation.—The Interstate Commerce Commission has issued a tentative valuation report as of 1917 placing the final value for rate-making purposes at \$20,897,414 for the property owned and \$21,221,980 for the property used.

SOUTHERN.—Tentative Valuation.—The Interstate Commerce Commission has issued a tentative valuation report in which the final value of the property owned by this company, as of June 30, 1916, is placed at \$250,342,174, and that of the property used, including leased lines, at \$349,066,622. The report does not cover the interest of the Southern in the Cincinnati, New Orleans & Texas Pacific; Alabama Great Southern; New Orleans & Northeastern; Mobile & Ohio; Georgia Southern & Florida; Chicago, Indianapolis & Louisville; Virginia & Southwestern; and a number of other railway and terminal companies, the stocks of which the Southern owns in whole or in part. The final value of the property owned and used is placed at \$251,538,900. The outstanding

capitalization on valuation date was \$423,476,473, and the investment in road and equipment, including land, was stated as \$387,922,214. With readjustment required by the commission's accounting examination this would be reduced to \$379,853,103. The cost of reproduction new was found to be \$263,304,404 for the property owned and \$353,250,945 for the property used, not including land; and the cost of reproduction less depreciation was found to be \$210,051,223 for the property owned and \$284,536,529 for the property used. A total of 97,781 acres of land used was given a present value of \$44,729,147. The company held securities in other companies of a par value of \$124,505,991 and a book value of \$62,333,004.

L. E. Jeffries, vice-president and general counsel of the Southern, issued a statement for the information of the holders of its securities, supplementing the commission's report. Referring to the interest of the Southern in the properties not included in this report, mentioned above, he said the book value of these investments is \$89,700,000 and he added:

The tentative valuation figure announced by the commission is based upon an inventory made as of June 30, 1916, and does not include the extensive additions and improvements provided during the past eight and one-half years at a cost of \$114,500,000.

The tentative valuation figure includes only \$5,838,900 for net working capital, such figure being arrived at according to the commission's formula. As a matter of fact, the net working capital of the Southern amounts to \$19,238,730.

In arriving at the tentative valuation figure the unit prices prevailing in 1914 were applied to construction quantities. Since the pre-war purchasing power of money was at least 170 per cent of its present purchasing power, not less than 70 per cent of the tentative valuation figure should be added to this figure to arrive at an estimate of the present day cost of reproduction of the Southern properties.

In arriving at the tentative valuation figure the commission has made a deduction of \$68,714,416 for "depreciation" of roadway structures and equipment. That there is no actual depreciation of this character with reference to a properly maintained railroad is well known.

The company does not accept the commission's tentative valuation figure as representing the fair value even of the things which it purports to appraise, and in the following calculation the tentative valuation figure is used as a basis only for the purpose of illustrating what that figure would have been had that appraisal included the additional elements of value referred to above.

Commission's tentative valuation figure.....	\$349,066,622
Value of investments in securities of other properties not included in the tentative valuation.....	89,700,000
Additions and improvements to properties made from June 30, 1916, to December 31, 1924.....	114,500,000
Excess of actual net working capital over amount included in the commission's tentative figure.....	13,399,830
Restoration of amount deducted for "depreciation" of roadway structures and equipment.....	68,714,416
Addition of the excess of present day cost price over the 1914 prices used by the commission.....	244,346,635

Total..... \$879,727,503

This total of \$879,727,503 exceeds by \$254,258,780 the figures of \$625,468,723 at which the Southern Railway's assets are carried on its balance sheet.

THE ST. LOUIS-SAN FRANCISCO.—Acquisition.—This company has purchased the Muscle Shoals, Birmingham & Pensacola and the Jonesboro, Lake City & Eastern, according to an announcement by president J. M. Kurn. A special meeting of stockholders has been called for September 4, to ratify these and other purchases. The Muscle Shoals road, which gives the Frisco an outlet to the southeastern seaboard, is 142 miles long, extending from Pensacola, Fla., north to Kimbrough, Ala., where connection is made with the Southern. Its northern terminus is approximately 146 miles distant from the nearest point on the Frisco. According to reports the construction of a connecting link is contemplated. The Jonesboro, Lake City & Eastern is 86 miles long, extending from Jonesboro, Ark., east to Garfield, with a branch from Dell to Wilson. It connects with the Frisco at five points.

Dividends Declared

Chicago & Western Indiana—1½ per cent, quarterly, payable July 1.
Cuba R. R.—Preferred, 3 per cent, payable August 1 to holders of record July 15; Preferred, 3 per cent, payable February 1, 1926, to holders of record January 15.

International Railways of Central America—Preferred, 1½ per cent, quarterly, payable August 14 to holders of record July 31.

Pullman Company—\$2, quarterly, payable August 15 to holders of record July 31.

Trend of Railway Stock and Bond Prices

	July 14	Last Week	Last Year
Average price of 20 representative railway stocks	81.33	81.77	68.85
Average price of 20 representative railway bonds	90.53	90.91	87.81

Railway Officers

Executive

J. O. Apps, who has been appointed general executive assistant of the Canadian Pacific, was born on November 9, 1877, at Tara, Ont., and attended the public schools at Montgomery, Ala., and at Chicago.

He entered the service of the Illinois Central at Chicago, as a clerk in the local freight office when he was 16 years of age.

In 1896 he resigned, and joined the staff of the Canadian Pacific the following year as a stenographer in the office of the general superintendent. In March, 1903, he became chief clerk in the general baggage department, and in May, 1907, he was promoted to assistant general baggage agent. On January 1, 1909, he was made general baggage agent,

which position he held until January, 1916, when he was placed in charge of the government mail traffic for system. In April, 1922, the baggage and mail traffic of the company's ocean service was placed under his supervision and he held this position at the time of his recent appointment to general executive assistant.



J. O. Apps

David L. Gray, assistant traffic manager of the New York Central, has been elected vice-president in charge of traffic of the Erie, with headquarters at New York, succeeding T. C. Powell, who has been elected president of the Chicago & Eastern Illinois.

Mr. Gray was born on October 1, 1870, and was educated in the public schools of New York. He entered railway service on May 1, 1886, as a clerk in the president's office of the Erie. From February 1, 1891, to July 31, 1904, he held various positions in the general freight department of the same road, and from August 1, 1904, to January 13, 1905, he was division freight agent at Elmira, N. Y. At this time he became assistant general freight agent, at New York, which position he held until April, 1909, when he became assistant freight traffic manager. He remained in this position until September, 1915, when he was promoted to assistant general traffic manager. From March, 1918, to October, 1918, he was manager of inland traffic for the United States Shipping Board, Emergency Fleet Corporation, at Washington, D. C. In November, 1918, he was made staff assistant to the regional director, Eastern region, of the United States Railroad Administration, at New York, and in February, 1919, he became acting traffic assistant to the



D. L. Gray

regional director of the same region. From May 1, 1919, to February 28, 1920, he was traffic assistant to the regional director of the same region, and on March 1, 1920, he became assistant traffic manager of the New York Central, which position he held at the time of his recent election to vice-president in charge of traffic of the Erie.

R. E. Van Atta, office engineer of the Kansas City Southern, with headquarters at Kansas City, Mo., has been promoted to engineering assistant to the vice-president and general manager, with the same headquarters, succeeding S. E. Shoup, who has resigned to enter other service.

Financial, Legal and Accounting

William T. Rainey, purchasing agent of the Cuba Northern, has been elected assistant treasurer of the Consolidated Railroads of Cuba, with headquarters at Grand Central Terminal, New York.

C. C. Blair, assistant treasurer of the Pennsylvania, with headquarters at Chicago, has been transferred to Pittsburgh, Pa., and the office of the treasury department at Chicago has been abolished.

N. F. Morehouse, who has been promoted to assistant general solicitor of the Chicago & North Western, with headquarters at Chicago, was born on April 3, 1889, at Fremont,



N. F. Morehouse

Nebr., and graduated from the University of Nebraska College of Law in 1911. He was appointed deputy county attorney of Dodge county, Nebr., later in that year, and two years later engaged in general and insurance law practice at Omaha, Nebr. Mr. Morehouse also served for a time as special counsel of the Nebraska State Insurance Board. After two years in military service, from August, 1917, to March, 1919, from which he was discharged as a major of infantry, Mr. Morehouse entered railway service as

general attorney of the Chicago & North Western under the United States Railroad Administration. He remained in that position following the termination of federal control in March, 1920, and was serving in that capacity at the time of his recent promotion to assistant general solicitor.

Operating

J. G. F. Moale has been appointed car service agent, in charge of the distribution of passenger equipment on the Southern Pacific, with headquarters at San Francisco, Cal.

C. C. Stibbard, trainmaster on the Kettle Valley, with headquarters at Penticton, B. C., has been transferred to the Canadian Pacific at Lethbridge, Alta., succeeding C. E. Legg, resigned.

L. M. Rose, acting superintendent of the Sonora division of the Southern Pacific of Mexico, has been appointed superintendent of the Sonora division, with headquarters at Empalme, Sonora, Mexico, succeeding J. A. Small, transferred to the Sinaloa division, with headquarters at Mazatlan, Sinaloa.

T. J. Foley, trainmaster of the Coast division of the Southern Pacific, with headquarters at San Luis Obispo, Cal., has been transferred to San Francisco. **J. M. Cardwell**, trainmaster of the Sacramento division, with headquarters at Roseville, Cal., has been transferred to the Coast division, succeeding Mr. Foley. **E. F. Nassoioy**, trainmaster of the Salt Lake

division, with headquarters at Carlin, Utah, has been transferred to the Sacramento division in place of Mr. Cardwell. **G. H. Moore** has been appointed trainmaster of the Salt Lake division, succeeding Mr. Nassoioy. **H. L. Kent** has been appointed terminal trainmaster of the Western division, with headquarters at West Oakland, Cal., succeeding H. R. Gerreich, transferred to Los Angeles.

Thomas Ahern, who has been promoted to assistant general manager of the Northern district of the Southern Pacific, with headquarters at Sacramento, Cal., was born on January 6, 1860, in Ireland. He entered railway service in December, 1881, as a laborer on the Western division of the Southern Pacific where he was later promoted to section foreman. He was promoted to roadmaster of the Western division in 1887 and in the following year was transferred to the Sacramento division. Mr. Ahern was transferred back to the Western division in 1892, where he remained until 1901, when he was promoted to general roadmaster. In July, 1905, he was promoted to general track inspector of the Central district, which position he held until September, 1906, when he was promoted to assistant superintendent of the Sacramento division. Mr. Ahern was promoted to superintendent of the Shasta division in October, 1907, and in July of the following year was transferred to the Coast division. He was transferred to the Sacramento division in October, 1921, where he remained until his recent promotion to assistant general manager.

F. N. Reynolds, who has been promoted to assistant general superintendent of the Cleveland, Cincinnati, Chicago & St. Louis, was born on January 24, 1877, in Boone County, Ia.



F. N. Reynolds

He entered railway service in September, 1896, and from that date until 1898, he was a brakeman on the Chicago & North Western. From 1899 to 1906, he was a brakeman and conductor on the Chicago, Rock Island & Pacific, and from January, 1906, to February, 1910, he was conductor, general yardmaster and trainmaster on the Panama Railroad. In March, 1910, he became trainmaster of the Chicago Great Western, with headquarters at St. Paul, Minn., and in November, 1911, he was promoted to superin-

tendent of the Oelwein division of the same road, which position he held until December, 1912. From June 1, 1913, to October 20, 1913, he was general yardmaster of the Great Northern at Great Falls, Mont. In November, 1913, he became general yardmaster of the Cleveland, Cincinnati, Chicago & St. Louis, at Indianapolis, Ind., and in March, 1915, he was promoted to superintendent of the Indianapolis Terminal division of the same road, at Indianapolis, Ind., which position he held until July, 1922, with the exception of the period of federal control, when he was general agent of the American Railway Association, chairman of the Committee on Terminal Operation and special representative of the Regional Director of the United States Railroad Administration. In July, 1922, he became superintendent of the Springfield division and the Indianapolis terminal of the Big 4. He became superintendent of the St. Louis division, at Mattoon, Ill., in May, 1924, which position he held at the time of his recent promotion.

Traffic

W. E. Lowes, general passenger agent, eastern lines, of the Baltimore & Ohio, has been promoted to assistant passenger traffic manager, with headquarters at Baltimore, Md. **H. B. Faroot**, assistant general passenger agent, has succeeded Mr. Lowes as general passenger agent, eastern lines.

E. N. Thorn, chief clerk passenger department, has been promoted to assistant general passenger agent. The headquarters of Mr. Faroot and Mr. Thorn will likewise be at Baltimore.

W. S. Larsen has been appointed general agent of the Cincinnati, Indianapolis & Western, with headquarters at Tulsa, Okla.

A. G. Boyne has been appointed traveling freight agent of the Missouri-Kansas-Texas, with headquarters at Detroit, Mich., succeeding **G. K. Reeder**, promoted.

E. A. Gray, general agent of the Chicago, St. Paul, Minneapolis & Omaha, with headquarters at Butte, Mont., has been transferred as general agent, freight department, to St. Paul, Minn., and the agency at Butte has been abolished.

Mechanical

F. J. Herter has been appointed engineer of rolling stock of the New York, Chicago & St. Louis, with headquarters at Cleveland, Ohio. **E. A. Kuhn** has been appointed engineer of motive power, with the same headquarters, both of these being newly created positions.

E. B. Dailey, who has been promoted to engineer of car construction of the Southern Pacific, with headquarters at San Francisco, Cal., was born on February 1, 1870, in Omaha, Neb., and was educated at Creighton College, Omaha, Neb. He entered railway service in July, 1886, as a machinist's apprentice on the Union Pacific at Omaha, and was later employed as a machinist on the Northern Pacific, the Oregon Railway & Navigation Company, the Union Pacific and the Southern Pacific. In September, 1892, he was employed as a draftsman on the Union Pacific at Omaha, later being promoted to inspector of equipment. He was promoted to chief draftsman in 1903 and was later promoted to assistant mechanical engineer. In February, 1913, Mr. Dailey was appointed assistant to the director of purchases of the Southern Pacific at New York. On June 1, 1918, he was appointed first assistant manager of the Procurement section of the United States Railroad Administration at Washington, D. C. In September of the same year he returned to the Southern Pacific as corporate mechanical engineer of the lines in Texas and Louisiana. From March 1, 1920, to January 1, 1921, he was assigned to special work, on the latter date being again appointed assistant to the director of purchases of the Southern Pacific at New York. He held that position until his recent promotion to engineer of car construction.



E. B. Dailey

Engineering, Maintenance of Way and Signaling

I. D. Waterman, assistant to the chief engineer of the New York, New Haven & Hartford, has been appointed assistant chief engineer of this company and also of the Central New England.

C. S. Burt has been appointed superintendent of tires and treatment of the Illinois Central and the Yazoo & Mississippi Valley, with headquarters at Memphis, Tenn., succeeding **E. H. Bowser**, deceased.

G. E. Tebbetts, general supervisor of bridges and buildings of the Chesapeake & Ohio, with headquarters at Richmond, Va., has been appointed engineer of structures of the Chicago Rapid Transit Company, Chicago.

E. W. Robinson, division engineer of the North line of the Port Arthur division of the Canadian National, with headquarters at Fort William, Ont., has been given extended jurisdiction to include the entire Port Arthur division, succeeding **F. W. Leeper**, who has been transferred to the Smithers division, with headquarters at Prince Rupert, B. C.

M. I. Dunn, Jr., has been appointed assistant division engineer of the Chesapeake & Ohio, with headquarters at Huntington, W. Va. **L. J. Drumeller** has been appointed assistant division engineer, with headquarters at Richmond, Va., succeeding Mr. Dunn, transferred. **J. E. King** has been appointed general supervisor bridges and buildings, with headquarters at Richmond, Va., succeeding **G. E. Tebbetts**, resigned. **H. M. Church** has been appointed division engineer, with headquarters at Hinton, W. Va., succeeding Mr. King.

Purchasing and Stores

C. M. Barron, purchasing agent of the Cuba Railroad, has been appointed general purchasing agent of the Consolidated Railroads of Cuba, with headquarters at Grand Central Terminal, New York.

D. C. Curtis, who has been promoted to chief purchasing officer of the Chicago, Milwaukee & St. Paul, with headquarters at Chicago, was born in 1878 at Remington, Ind., and entered railway service in 1898 as an office boy in the engineering department of the Chicago, Burlington & Quincy at Chicago. He was transferred to the mechanical department in 1899 and in 1904 was placed in charge of the piece work department. In 1907 Mr. Curtis was transferred to the stores department and was promoted to inspector of stores in 1909. He was promoted to traveling storekeeper in 1914 and held that position until 1919 when he was appointed supervisor of stores of the Northwestern region under the United States Railroad Administration. He was appointed general storekeeper, lines east, of the Chicago, Milwaukee & St. Paul, with headquarters at Milwaukee, Wis., in 1920, and held that position until his recent promotion to chief purchasing officer.



D. C. Curtis

Obituary

R. H. Briggs, formerly master mechanic of the St. Louis-San Francisco at Memphis, Tenn., who retired from active service in 1913, died at Memphis on July 3.

E. W. Westlake, formerly superintendent of dining car service of the Pennsylvania, who retired on January 1 this year on account of ill health, died at Martinsville, Ind., on July 1.

Charles H. Reynolds, assistant general superintendent, western lines, of the Chicago & North Western, with headquarters at Norfolk, Neb., died in that city on July 11, following an operation for appendicitis. He was born on July 13, 1859, and educated at Washington University, St. Louis, Mo. Mr. Reynolds entered railway service in 1879 as a clerk on the Chicago & North Western, was later appointed division superintendent of the Fremont, Elkhorn & Missouri Valley, now a part of the Chicago & North Western, and in 1903 was appointed division superintendent on the lines west of the Missouri river of the North Western. He was promoted to assistant general superintendent in June, 1918, and held that position until his death.